



(BID SET)

HILLSBOROUGH COUNTY
AVIATION AUTHORITY

PROJECT MANUAL

(Containing Bidding and Contract Requirements, and Specifications)

FOR

North Air Cargo Roof Rehabilitation

AUTHORITY PROJECT NUMBER 6530 18

TAMPA INTERNATIONAL AIRPORT
TAMPA, FLORIDA

Prepared By: Procurement Department

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North Air Cargo Roof Rehabilitation

Authority Project No. 6530 18

TAMPA INTERNATIONAL AIRPORT
Tampa, Florida

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Hillsborough County Aviation Authority
Solicitation Addendum

Addendum No.: 1
Solicitation Title: North Air Cargo Roof Rehabilitation
Addendum Date: November 22, 2022
Procurement Agent: James Hanney

NOTE: The due date for submission of the Response remains on **January 11, 2023, no later than 2:00 p.m. E.T.**

THE FOLLOWING ITEMS ARE MADE AND HEREBY BECOME A PART OF THIS SOLICITATION AS PREPARED BY PROCUREMENT:

Remove and Replace:

REMOVE Section 00020 – INVITATION TO BID.
REPLACE WITH The attached revised Section 00020 – INVITATION TO BID.

End of Addendum

INSTRUCTIONS:

Respondent must acknowledge receipt of this Addendum as instructed in the solicitation document. Failure to acknowledge receipt of this Addendum may result in the disqualification of Respondent's response.



Hillsborough County Aviation Authority
Solicitation Addendum

Addendum No.: 2
Solicitation Title: North Air Cargo Roof Rehabilitation
Addendum Date: December 21, 2022
Procurement Agent: James Hanney

NOTE: The due date for submission of the Response remains on **January 11, 2023, no later than 2:00 p.m. E.T.**

THE FOLLOWING ITEMS ARE MADE AND HEREBY BECOME A PART OF THIS SOLICITATION AS PREPARED BY PROCUREMENT:

Note:

A revised Bid Schedule has been loaded into the Owner's e-Procurement Portal with the posting of this Addendum No. 2.

Remove and Replace:

REMOVE: Specification Section 075419 - Polyvinyl-Chloride (PVC) Roofing.
REPLACE WITH: Attached revised Specification Section 075419 - Polyvinyl-Chloride (PVC) Roofing, in its entirety.

Questions and Responses:

Q.1 Can you provide what the Engineer's Budgeted Estimate is for the project?

R.1 The Engineer's Estimate will be announced at the Bid Opening.

Q.2 The plans call for removal and replacement of metal decking. Are we going to be required to have a Contractor's license to bid this project for that scope of work?

R.2 Yes. All Bidders will provide a copy of a current and active Contractor's License that qualifies Bidder to bid on the work in the Owner's e-Procurement Portal under "Respondent Questionnaire".

- Q.3 The Duro-last PVC membrane was approved on the previous TIA Fedex bid, will it be approved for this bid as well? Warranty or scope will not be affected!**
- R.3 The Duro-last PVC product is incorporated in the attached revised Specification Section 075419 – Polyvinyl-Chloride (PVC) Roofing issued with this Addendum No. 2.
- Q.4 The plan/specs say the current metal decking has 1/8" slope building into the structure. Will the contractor be required to add 1/8" tapered insulation to achieve the desired ¼" slope. Or are you looking to install ¼" tapered insulation over the 1/8" sloped deck.**
- R.4 The Contractor will be required to meet the ¼" per foot slope as the overall total. Therefore 1/8" per foot tapered insulation is expected to be installed.
- Q.5 Who can we schedule a site walk with? Since the site walk was cancelled at pre-bid meeting, we would like to set up a walk soon.**
- R.5 The Authority will not be scheduling a Site walk for this Project. Bidders should refer to the detailed reports that are included with the Technical Specifications.

End of Addendum

INSTRUCTIONS:

Respondent must acknowledge receipt of this Addendum as instructed in the solicitation document. Failure to acknowledge receipt of this Addendum may result in the disqualification of Respondent's response.

HILLSBOROUGH COUNTY AVIATION AUTHORITY

INVITATION TO BID

Sealed bids will be received no later than **2:00 p.m., January 11, 2023** via the Owner’s e-Procurement Portal located at <https://secure.procurenow.com/portal/tampaairport>. The Owner’s e-Procurement Portal Clock is the official clock for determination of all deadline dates and times. Without exception, Bids will not be accepted after the submission deadline regardless of any technical difficulties such as poor internet connections. The Owner strongly recommends completing and submitting Bids well ahead of the deadline. All bids received will be publicly opened and read aloud thereafter at 2:00 p.m. in the Rental Car Center Conference Room, which is located on the third floor of the Rental Car Center at 5409 Airport Service Rd, Tampa, FL 33607, Tampa International Airport and via Microsoft Teams video and audio. No bid will be considered unless received on or before the time and at the place designated above.

The Bidder must supply all information required by the Solicitation Documents, to include the bid form and required attachments (Contract Documents) through the Owner’s e-Procurement Portal located at <https://secure.procurenow.com/portal/tampaairport> by the Bid Submittal Time and Date.

In Addition to providing the a scanned copy of the Bid Bonds, Surety Bond Affidavit, Power of Attorney, and Cashier’s Check (if applicable) through the Owner’s e-Procurement Portal located at <https://secure.procurenow.com/portal/tampaairport> by the Bid Submittal Time and Date, Bidders will also submit such documents to the Owner within seven days after the date of the Bid Opening as an original hardcopy with corporate seals for Bidder and Surety.

Bidders are invited to submit bids for the work on the bid forms provided in the Contract Documents. Other bid forms will not be accepted.

Scheduled Item	Significant Dates
Contract Documents posted on Owner’s e-Procurement Portal:	November 16, 2022 after 1:30 p.m.
Mandatory Pre-Bid Conference	November 30, 2022 at 10:00 a.m.
Mandatory Site Inspection	November 30, 2022, Details will be announced during the Pre-Bid Conference.
Request for Clarification Deadline	December 14, 2022 by 2:00 p.m.
Addendum posted on Owner’s e-Procurement Portal website	December 21, 2022 by 5:00 p.m.
Bid Submittal Time and Date	January 11, 2023 by 2:00 p.m.
Award by Authority’s Board	March 2, 2023 at 9:00 a.m.

A **MANDATORY** Pre-Bid Conference for all Bidders will be held in the SkyCenter Boardroom, which is located on the fourth floor of the SkyCenter One Office Building at 5411 SkyCenter Dr, Tampa, FL 33607 on **November 30, 2022 at 10:00 a.m.** Questions relating to the Contract and Contract Documents will be answered at that time. Attendance by all prospective Bidders is mandatory. Bids submitted by

Bidders not in attendance at this scheduled MANDATORY Pre-Bid Conference will be rejected.

Attendance may be in person or via Microsoft Teams. To be considered as attending in person, Bidder must have signed in on one of the sign-in sheets. Attendees are warned that the sign-in sheets will be collected once the Pre-Bid Conference begins. Any Attendees arriving late after the sign-in sheets are collected will not be considered to have attended the Pre-Bid Conference as required. **Contact the Procurement Agent listed below (Page 00020-3) via email to register as an on-line attendee by Microsoft Teams. To be considered as attending via Microsoft Teams, the attendee must be identified by the Procurement Agent at the start of the Pre-Bid Conference and must stay on-line through the end of the Pre-Bid Conference. The on-line attendance registration deadline is listed above. Pre-registration is not required for in person attendees.**

~~A MANDATORY site inspection of the Project areas at Tampa International Airport will occur as a part of the scheduled Pre-Bid Conference. Details will be announced during the Pre-Bid Conference. Attendance by all prospective Bidders at this scheduled site inspection is mandatory.~~

IMPORTANT NOTICE

All Bidders are hereby notified that they must comply with the Woman and Minority Business Enterprise (W/MBE) Program requirements as defined in the Owner's W/MBE Policy.

W/MBE – This Project has no federal funding and has a W/MBE Goal of 0%.

Complete examination and understanding of the Contract Documents, including the bidding documents, general conditions of the Contract, specifications, construction drawings and the site of the proposed work, are necessary to properly submit a bid.

A cashier's check on any national or state bank or a bid bond on the form contained in the Contract Documents in an amount not less than 5% of the total amount bid, made payable to the Hillsborough County Aviation Authority, must accompany each bid as a guarantee that the Bidder will not withdraw its bid for a period of 85 calendar days (or 115 calendar days if federal funds are applicable) after opening of the bids, and as a guarantee that, in the event the Contract is awarded to the Bidder, Bidder will, within seven days after the date of award of the Contract, enter into a Contract with the Owner and furnish the required and executed contracts, insurance policy endorsements, certificates of insurance and performance and payment bonds. If Bidder fails to do this, Bidder will forfeit the amount of the cashier's check or bid bond as liquidated damages. By submitting its Bid, the Bidder agrees that these liquidated damages are not a penalty. The bid bond and performance and payment bonds are required to be secured by an agency of the surety, which agency will have an established place of business in the State of Florida and will be duly licensed to conduct business therein.

The Owner reserves the right to waive any formalities, technicalities, or irregularities, and reject any or all bids, re-advertise for bids and avoid or refrain from awarding the contract for the work.

Bidders shall submit all inquiries regarding this bid via the Owner's e-Procurement Portal, located at <https://secure.procurenow.com/portal/tampaairport>. Please note the deadline for submitting inquiries. All answers to inquiries will be posted on the Owner's e-Procurement Portal. Bidders may also click "Follow" on this bid to receive an email notification when answers are posted. It is the responsibility of the bidder to check the website for answers to inquiries.

If you have any questions pertaining to this Project, please contact the Procurement Agent, James Hanney, at (813) 870-8779 or email at JHanney@TampaAirport.com.

END OF SECTION

SECTION 00100 - INSTRUCTIONS TO BIDDERS

1.01 GENERAL

- A. This Contract is to be financed solely by the Hillsborough County Aviation Authority (Owner). Award of Contract is subject to the approval of the Owner.
- B. Owner, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises and airport concession disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.
- C. Non-Discrimination and Segregated Facilities:
 - 1. Each Bidder will complete, sign and include in their Bid the Certification of Non-Segregated Facilities. If not submitted with the Bid, the Bid may be considered irregular and may be rejected. When a determination has been made to award a Contract to a specific Contractor, such Contractor will, prior to award, furnish such other pertinent information regarding compliance with Federal Regulation and Contractor's own employment policies and practices as the Federal Aviation Administration, the Owner, or the Secretary of the Labor Office of Federal Contract Compliance (OFCC) may require. Contractor will require similar compliance with its subcontractors. Where the Contract Price is \$10,000.00 or greater, Contractor will comply with Part 152 of the Federal Aviation Regulations as amended and specifically FAR 152.411 (c) and (d), incorporated herein by this reference. All such information required of a subcontractor will be furnished by the Contractor.
 - 2. The Equal Employment Opportunity Report Statement, Certificate of Non-Segregated Facilities, Equal Opportunity Clause, and all other EEO requirements will be included in all non-exempt subcontracts entered into by the Contractor. Subcontracts entered into by Contractor will also include all other applicable labor provisions. No subcontract will be awarded to a non-complying subcontractor.
 - 3. Affirmative Action: If the Contract is an Aviation Related Activity as defined in 14 CFR Part 152, and is a Construction Contract of \$10,000.00 or more, Contractor assures that it will undertake an Affirmative Action Program as required by 14 CFR Part 152 Subpart E, to insure that no person will, on the grounds of race, creed, color, national origin, or sex, be excluded from participating in or receiving the services or benefits of any program or activity covered by this Subpart. Contractor assures that it will require that its covered suborganizations provide assurances to the Contractor that they similarly will undertake Affirmative Action Programs and that they will require assurances from their suborganizations, as required by 14 CFR Part 152, Subpart E to the same effect.

4. In addition, the Bidder will also insert in each of Bidder's subcontracts a clause requiring the subcontractor to include these provisions in any lower tier subcontracts which they may enter into, together with a clause requiring this insertion in any further subcontracts that may in turn be made.

D. Compliance with Governmental Requirements:

1. The Bidder covenants and agrees that Bidder and Bidder's agents and employees will comply fully with all applicable federal, state, county, municipal or other governmental laws, executive orders, wage, hour and labor, equal employment opportunity, Woman and Minority Owned Business Enterprises, pollution control, and environmental regulations, applicable national and local codes, and Hillsborough County Aviation Authority Rules, Regulations and Manuals, and that Bidder will obtain all necessary permits, pay all required fees and taxes, and otherwise perform these services in a legal manner. To the maximum extent permitted by applicable law, the Bidder will indemnify and hold harmless the Owner, its Board members, officers, employees, agents, and volunteers from any fees, damages, fines or costs of any kind arising out of Bidder's or any of the Bidder's consultants, subcontractors, suppliers or agents of any tier or their respective employees' failure to comply with such governmental regulations. This obligation to indemnify and hold harmless will be construed separately and independently. If this clause is found to be in conflict with applicable law, the clause will be considered modified by such laws to the extent necessary to remedy the conflict.
2. Bidder certifies that all materials, equipment, etc., contained in their Bid meets all OSHA requirements.
3. Bidders must comply with the Fair Labor Standards Act.
4. It is the Authority's policy to promptly take any measures necessary to ensure that no person in the United States shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in any activity conducted with, or benefiting from, funds received from this Procurement. Bidder agrees to abide by this Policy.
 - a. Using the definitions of activity, facility and program as found and defined in §§21.23(b) and 21.23(e) of 49 CFR §21, the Authority and Bidder will facilitate all programs, operate all facilities, or conduct all programs in compliance with all non-discrimination requirements imposed by, or pursuant to FAA Grant Assurance 30.

E. Procurement Protest Policy:

1. Failure to follow the procurement protest policy set out in the Owner's policies constitutes a waiver of Bidder's protest and resulting claims. A copy of the procurement protest policy may be obtained by contacting the Owner via telephone at 813-870-8700 or via mail to Hillsborough County Aviation

Authority, Post Office Box 22287, Tampa, Florida 33622. The policy is also available on the Owner's website: www.TampaAirport.com > Learn about TPA > Airport Business > Procurement > Procurement Protest Policy. The Authority will post on its website, and make available for public access, any and all formal protest documents received on this solicitation.

F. Restricted Vendor Lists:

1. By submitting a Bid, Bidder represents that it is not precluded from submitting a Bid under Section 287.133 (2)(a), Florida Statutes, which provides as follows: a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, Florida Statutes for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.
2. A person or affiliate who has been placed on the discriminatory vendor list kept by the Florida Department of Management Services may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a Contractor, supplier, subcontractor, or consultant under a contract with any public entity and may not transact business with any public entity as provided in Section 287.134 of the Florida Statutes.
3. An entity or affiliate who has had its Certificate of Qualification suspended, revoked, denied, or have further been determined by FDOT to be a non-responsible contractor, may not perform work under this Contract.

G. General Bond Requirements:

1. The bid security will be as specified; only the Bid Bond and Surety's Bond Affidavit as bound within these documents or a Cashier's Check is acceptable. Each separate Bid will be accompanied by a Cashier's Check or Bid Bond on the form provided herein in an amount of not less than 5% of the total amount bid, made payable to the Hillsborough County Aviation Authority. If a Bid Bond is provided in lieu of a Cashier's Check, it must be accompanied by a valid Power of Attorney indicating that the person signing the Bond on behalf of the Surety has full legal authority to do so. Failure to provide the Bid Bond or Cashier's check will result in your bid being found as non-responsive. If the Power of Attorney is not provided with the Bid Bond, the Bid may be considered irregular and may be rejected.
2. The amount of such Bid Bond or the Cashier's Check of the Bidder whose Bid is accepted will be forfeited and paid to the Owner as liquidated damages if said

Bidder fails to enter into a Contract with the Owner and fails to furnish the required and executed contracts, certificates of insurance and performance and payment bonds within seven days after the date of the award of the Contract. The Bidder agrees that the liquidated damages are not a penalty and 5% of the total bid amount is reasonable.

3. Contract Payment and Performance Bonds will be as specified; only the Payment and Performance Bonds and Surety's Bond Affidavits as bound within these Contract Documents are acceptable.
4. The Surety of the Bond will be a corporate Surety authorized under the laws of Florida to do business in Florida, and authorized to write that type of bond through a licensed agent of the Surety located in Florida. The agent authorized to represent the Surety on the Bid Bond must be listed on the State website: www.myfloridacfo.com. If the agent is not listed on the State website as an authorized representative of the Surety, the Bid may be considered irregular and may be rejected.
5. **PERFORMANCE BOND AND PAYMENT BOND**
 - a. The Contractor will furnish a Statutory Payment Bond and a Common Law Performance Bond (Bonds) for the full and faithful performance of the Work, meeting the standards specified herein, on the bond forms attached to this Contract as Sections 00610 and 00620, with a certified Power of Attorney Affidavit attached, each in the full amount of the Contract Sum.
 - b. All Bonds required under this Contract will be written through a reputable and responsible surety bond agent, licensed to do business in the State of Florida and with an acceptable Surety company which holds a Certificate of Authority authorizing it to write surety bonds in Florida. Bonds will be furnished to the Owner not later than seven days after Notice of Award. Prior to the commencement of any of the Work, but not later than 30 days from the date of Notice of Award, the Contractor will record the Bonds in the public records of Hillsborough County, Florida.
 - c. An acceptable Surety company must meet all of the following requirements:
 - i. Hold a Certificate of Authority authorizing it to write surety bonds in Florida.
 - ii. Have been in business and have a record of successful continuous operations for the last five years.
 - iii. Be listed and maintain a current Certificate of Authority as acceptable surety on federal bonds and as acceptable reinsuring companies in accordance with U.S. Department of Treasury Circular 570, current revision. The amount of Bonds issued

pursuant to this Contract will not exceed the underlying limitation in the Federal Register for that Surety.

- iv. Have a current rating by A.M. Best Company of "A-" or higher.
- v. Be a responsible Surety company at the time of the Bond execution.
- d. Should the Surety lose its Certificate of Authority according to the current Federal Register published by the U.S. Department of the Treasury, and/or should its Best rating be reduced below the rating required in Paragraph c. iv the Owner will have the right to require Contractor to change the Surety to an acceptable Surety company, all at Contractor's expense without reimbursement from Owner.
- e. The Surety company will have a Florida licensed agent who is authorized to execute bonds for the Surety company and whose name is listed in the prescribed space on the bond forms and affidavit for all Bonds required by the Owner.
- f. Upon the request of any person or entity appearing to be a potential beneficiary of the Bonds covering payment of obligations arising under this Contract, the Contractor will promptly furnish a copy of the Bonds or will permit a copy to be made.
- g. If the Surety on any Bond furnished by the Contractor under this Contract is declared bankrupt, becomes insolvent, has its right to do business in the State of Florida terminated, ceases to be licensed to conduct business in the State of Florida, if the Owner deems the Surety upon any Bond to be unsatisfactory, or if for any reason such Bond ceases to be adequate, the Contractor will, at its expense, within five days after such occurrence, furnish additional or replacement Bond or Bonds in such form, amount, and with such Surety or Sureties as will be acceptable to the Owner. In such event, no further payment to the Contractor will be deemed to be due under this Contract until such new or additional security for the faithful performance of the Work is furnished in a manner and form acceptable to the Owner.
- h. In the event the Bonds required in this Article are not provided, the Owner will have the right to terminate this Contract for cause.
- i. Bond coverage shall be adjusted during the term of this Contract to reflect additions or deductions made by Change Orders or Work Orders.
- j. The Owner is entitled to receive any refunded bond premiums resulting from Bond coverage adjustments.

H. Insurance Requirements:

Insurance requirements will be as specified herein in Section 00650 - INSURANCE REQUIREMENTS.

1.02 EXAMINATION OF CONDITIONS AFFECTING WORK

- A. Prior to submitting a Bid, each Bidder will examine and thoroughly familiarize itself with all existing conditions, including all applicable laws, codes, ordinances, rules and regulations that will affect their Work. Bidders will visit the Project Site, examine the grounds and all existing buildings, utilities, pavements and systems and will ascertain all conditions that will in any manner affect Work. Bidders will make a request to the Owner, in writing, for any additional information deemed necessary for Bidder to be fully informed as to exactly what is to be expected prior to submitting a Bid.
- B. The Owner will make available during normal business hours, at its offices, Record Documents and Drawings pertaining to the existing Site and Facilities at the Airport listed on Section 00020 - INVITATION TO BID, Page 00020-1. These Record Documents and Drawings will not be considered a part of the Contract Documents but are provided by the Owner for information only to assist Bidders in ascertaining conditions that may affect the Work. Record Documents and Drawings have been maintained by the Owner solely for the Owner's own benefit, and do not necessarily indicate all existing conditions fully or accurately. Bidders will be solely responsible for all assumptions made in reliance upon Record Documents and Drawings.
- C. The Contract Documents describe the Work to be performed under this Contract and include, but are not limited to, the Bidding Documents, Bonds, Affidavits, Compliance Forms, Statements, Insurance Requirements and Documents, the Contract between Owner and Contractor (herein referred to as the Contract), Conditions of the Contract (General Conditions), General Requirements and other Requirements, Reports, and Specifications.
- D. The Bidders shall be responsible for obtaining any and all information that they consider necessary for the purpose of preparing and submitting their Bid.
- E. By submitting a Bid, Bidder certifies that it has investigated and is fully informed of the conditions to be encountered, of the character, quality and quantities of Work to be performed and materials to be furnished, and it has included in its Bid all items and costs necessary for the proper execution and completion of the Work.

1.03 CONE OF SILENCE AND INTERPRETATIONS

The Owner has established a cone of silence applicable to all competitive procurement processes, including this Bid. The cone of silence will be imposed on this Bid beginning on the date the Bid documents are posted on the Owner website and ending with the Board's selection.

- A. The cone of silence prohibits any communications regarding this Invitation to Bid between:

1. A potential respondent (which includes vendors, service providers, bidders, proposers, lobbyists and consultants) and their representative(s) and Owner's staff, or Owner consultants engaged to assist the Owner on a specific Invitation to Bid, except for communications with the Owner's procurement agent or other supporting procurement staff responsible for administering the procurement, provided the communication is strictly limited to procedural matters; and
 2. A potential respondent and their representative(s) and a Board member.
- B. Unless specifically provided otherwise, in addition to the exceptions set forth above, the cone of silence does not apply to:
1. Communications with the Owner's Legal Affairs Department; and
 2. Oral communications at the Pre-Bid Conference; and
 3. Oral communications during any duly noticed Board meeting; and
 4. Communications relating to protests made in accordance with the Owner's Procurement Protest Policy.
- C. Any communications regarding matters of process or procedure from a potential Bidder must be referred to the Procurement Agent listed in the Contact Section on the Owner's e-Procurement Portal, located at <https://secure.procurenow.com/portal/tampaairport>. Please refer to the Owner's e-Procurement Portal for updated information pertaining to any addenda or revisions to the Bid schedule.
- D. No oral interpretation or clarification of the Contract Documents will be made to any Bidder. If Bidder requires clarification or finds any ambiguities, discrepancies in, or omissions or there is doubt as to the true meaning of any part of the Contract Documents, Bidder shall submit all inquiries regarding this bid via the Owner's e-Procurement Portal, located at <https://secure.procurenow.com/portal/tampaairport>. Please note the deadline for submitting inquiries. All answers to inquiries will be posted on the Owner's e-Procurement Portal.
- E. All such interpretations and any supplemental instructions will be in the form of a written addendum posted on the Owner's e-Procurement Portal, located at <https://secure.procurenow.com/portal/tampaairport>. It is the responsibility of the Bidder to verify the Owner received their request by contacting the Procurement Agent listed as the contact listed in Owner's e-Procurement Portal, located at <https://secure.procurenow.com/portal/tampaairport>. Failure of any Bidder to review any addendum will not relieve them from any obligation contained therein.
- F. Bidders are required to register for an account via the Owner's e-Procurement Portal hosted by OpenGov. Once bidder has completed registration, you will receive addenda notifications to your email by clicking "Follow" on this project. Ultimately, it is sole responsibility of each bidder to periodically check the site for any addenda at <https://secure.procurenow.com/portal/tampaairport>.

- G. Any violation of the cone of silence will render voidable the bid, as well as the awarded Contract.

1.04 SUBSTITUTIONS

- A. The materials, products and equipment described in the Contract Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. The Contractor is responsible for assuring that all suppliers, subcontractors and vendors conform to the Contract requirements.
- B. No substitution will be considered prior to the specified Bid submittal time and date unless written request for approval has been submitted via Owner's e-Procurement Portal, located at <https://secure.procurenow.com/portal/tampaairport>. The burden of proof on the merit for the proposed substitution is upon the Bidder. The Owner's decision to approve or disapprove a proposed substitution is final.
 - 1. In making requests for substitutions, the Bidder will list the particular system, product, or material Bidder wishes to substitute, and the justification for the substitution. Requests submitted will include any and all adjustments of that and any other Work affected thereby.
- C. If the Owner approves a proposed substitution prior to the specified Bid submittal time and date, such approval will be set forth in an Addenda. Bidders will not rely on approvals made in any other manner.
- D. No substitutions will be considered after the Bid submittal time and date except as specifically provided for in the Contract Documents.

1.05 ADDENDA

- A. Any Addenda issued by the Owner prior to the Bid submittal time and date for the purpose of changing the intent of the Contract Documents or clarifying the meaning of same, will be binding in the same way as if written in the Contract Documents. Since all Addenda are available to Bidders on the Owner's e-Procurement Portal, located at <https://secure.procurenow.com/portal/tampaairport>, it is sole responsibility of each bidder to periodically check the site for any addenda at <https://secure.procurenow.com/portal/tampaairport> before submitting Bids. It is the usual practice for the Owner to e-mail Addenda to known Bidders, but it cannot be guaranteed that all Bidders will receive Addenda in this manner. Each Bidder will acknowledge receipt of each and every Addendum directly in the Owner's e-Procurement Portal, located at <https://secure.procurenow.com/portal/tampaairport>. If acknowledgment is not given, the Bid may be considered irregular and may be rejected.
- B. Bidders shall submit all inquiries regarding this bid via the Owner's e-Procurement Portal, located at <https://secure.procurenow.com/portal/tampaairport>. Please note the deadline for submitting inquiries. All answers to inquiries will be posted on the Owner's e-Procurement Portal. Bidders may also click "Follow" on this bid to receive an email notification when answers are posted. It is the responsibility of the bidder to check the website for answers to inquiries.

- C. Any issue that may affect Bidder's ability to bid or to construct the Project may be submitted to the Procurement Agent after the Request for Clarification Deadline. The Owner will determine if the issue affects the Bidder's ability to bid or construct the Project and, if it substantially does so, will issue an Addendum addressing the issue.

1.06 CONTRACT DOCUMENTS

- A. Complete sets of the Contract Documents are available on the Owner's e-Procurement portal located at <https://secure.procurenow.com/portal/tampaairport>.
- B. Bidders are expected to use complete sets of Contract Documents in preparing Bids. Bidder shall be solely responsible and liable for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.
- C. If Bidder has any questions or finds ambiguities, discrepancies in, or omissions from the Contract Documents, the Bidder shall submit all inquiries regarding this bid via the Owner's e-Procurement Portal, located at <https://secure.procurenow.com/portal/tampaairport>. Please note the deadline for submitting inquiries. All answers to inquiries will be posted on the Owner's e-Procurement Portal..
- D. By submitting a Bid, the Bidder certifies that it has thoroughly and fully examined the Contract Documents and that it has informed the Owner of any questions, ambiguities, discrepancies in, or omissions from the Contract Documents.

1.07 RESPONSIBILITY OF BIDDERS

- A. The Owner reserves the right to investigate and determine the responsibility of the Bidders before and after Bids are received. Owner will not award the Contract to any Bidder determined by Owner to be non-responsible. Among the criteria which Owner may use in making such determination are the following:
 - 1. Failure to comply with any minimum qualification requirements of the Owner, , as specified for this Project on the Owner's e-Procurement Portal located at <https://secure.procurenow.com/portal/tampaairport>.
 - 2. Failure to supply such accurate information as the Owner may require in evaluating the responsibility of Bidders or failure to supply the Owner with such documents or information as the Owner may request to assist the Owner in evaluating the responsibility of prospective Bidders.
 - 3. Failure of the Bidder to obtain proper license (if any is required) prior to bidding, i.e. if Bidder is not certified and licensed in accordance with the appropriate State of Florida Statutes and appropriate State of Florida construction or professional licensing boards, including but not limited to the requirements of Chapters 255 and 287 of the Florida Statutes. In addition, applicable license(s) must be current and active throughout the life of the project.
 - 4. Past performance of the Bidder, one or more of the listed Subcontractors or any affiliated or related entity.

5. Failure of Bidder or any affiliated related entity to pay or satisfactorily settle all bills for labor and materials on any former contract with Owner.
6. The outstanding obligations of the Bidder, whether previously assumed or to be assumed in the future.
7. Unsatisfactory, defective, or non-conforming work on any previous contract with the Owner by the Bidder, one or more of the listed subcontractors, or any affiliated or related entity.
8. The present relationship between the Owner and the Bidder (or any affiliated or related entity), including the existence of any unresolved disputes arising out of past projects.
9. The financial condition of the Bidder. Such evidence of financial responsibility will consist of a confidential statement or report of the Bidder's financial resources and liabilities as of the last calendar year or the Bidder's last fiscal year. Such statements or reports will be certified by a public accountant. At the time of submitting such financial statements or reports, the Bidder will further certify whether their financial responsibility is approximately the same as stated or reported by the public accountant. If the Bidder's financial responsibility has changed, the Bidder will qualify the public accountant's statement or report to reflect the Bidder's true financial condition at the time such qualified statement or report is submitted to the Owner.
10. Experience of the Bidder and/or its listed subcontractors in performing Work of this nature.
11. Submission of appropriate Women and Minority Owned Business Enterprise (W/MBE) information.
12. Past compliance with the Owner's W/MBE Policy and Program on Owner projects only.
13. Submission, upon request, of the Bid Documents.
14. Lack of Competency of Bidder. The Contract will be awarded only to a Bidder considered to be capable of performing the Work as required by the Contract Documents. Owner may declare any Bidder ineligible at any time during the process of receiving bids or awarding the Contract where developments arise which, in the opinion of the Owner, adversely affect the Bidder's competency to perform the Work and to discharge its responsibilities under the Contract.

1.08 PREPARATION AND SUBMISSION OF BID

- A. Sealed Bids for the construction of the Work generally described will be received until the time and date stated in the Section 00020 - INVITATION TO BID.

- B. Bids received without Section 00300 – BID FORM will be found non-responsive.
- C. Bids received without completion of the Bid Schedule found in the Owner’s e-Procurement Portal will be found non-responsive.
- D. Due to the allocation of funds, successful Bidders will be required to provide a Schedule of Values in a manner acceptable to the Design Professional and Owner, and in accordance with the Contract Documents.
- E. Each Bid and any attachments submitted will be submitted through the Owner’s e-Procurement Portal located at <https://secure.procurenow.com/portal/tampaairport>.

No Bid will be considered unless received through the Owner’s e-Procurement Portal located at <https://secure.procurenow.com/portal/tampaairport> before the Bid submittal time and date specified for opening all Bids. Bids will not be accepted after the specified Bid submittal time and date. The Bid will contain the following documents.

Bidder will submit the following as a response to this Invitation to Bid:

All required documents as specified for this project in the Owner’s e-Procurement Portal.

File Uploads: All electronic files submitted must be in a common format accessible by software programs the Owner uses. Such common formats are generally described as Microsoft® Word (.doc or .docx), Microsoft® Excel (.xls or .xlsx), JPEG, or Adobe Portable Document Format (.pdf).

Bidder will not secure, password protect or lock uploaded files. The Owner must be able to open and view the contents of uploaded files. Bidder will not disable or restrict the ability of the Owner to print the contents of an uploaded file.

Scanned documents or images must be of sufficient quality, no less than 150 dpi, to allow for reading and interpreting the words, drawings, images or sketches.

It is the Bidder’s responsibility to ensure the files uploaded to the Owner’s software programs are not corrupt.

- F. The Bidder will have downloaded Contract Documents from the Owner and must submit their Bid on the forms furnished by the Owner in the Owner’s e-Procurement Portal. Bids submitted by Bidders who have not downloaded Contract Documents from the Owner’s e-Procurement Portal may be rejected.
- G. Bids will be submitted as indicated in the Bid Schedule located in the Owner’s e-Procurement Portal. If the Bid Schedule located in the Owner’s e-Procurement Portal is not submitted with the Bid, the Bid will be found non-responsive.
- H. Bids containing reservations, conditions, omissions, unexplained erasures or alterations, items not required in the Bid or irregularities of any kind may be rejected by the Owner.

- I. Each Bid will indicate the full business name and address of the Bidder and will be signed by Bidder with Bidder's usual signature.
- J. A Bid submitted by a partnership will list the names of all partners and will be signed in the partnership name by one of the members of the partnership.
- K. A Bid submitted by a corporation will be executed in the legal name of the corporation. If the Bid Affidavit is signed by a person other than the President or Vice President of the corporation, such person must furnish a corporate resolution showing their authority to bind the corporation. The name of each person signing the Bid will be typed or printed below the signature.
- L. When requested by the Owner, a Power of Attorney or other satisfactory evidence of the authority of the officer signing in behalf of the corporation will be furnished for the Owner's records.
- M. The Bid will be accompanied by a Bid Bond and Surety's Bond Affidavit executed on the forms provided or a Cashier's Check payable to the Owner, in an amount not less than 5% of the bid amount. If a Bidder withdraws its Bid within 85 calendar days (or 115 calendar days if federal funds are applicable) from the date on which Bids are opened, or if a Bidder is awarded the Contract but fails, refuses or neglects to execute and return the Contract or to furnish acceptable Insurance Documents and the required Certificates of Insurance, Payment and Performance Bonds within seven calendar days after the date of award of the Contract, then the amount of the Bond or cashier's check will be paid to, or retained by, the Owner as liquidated damages. The Bidder agrees that the Liquidated Damages are not a penalty and 5% of the total bid amount is reasonable.
- N. The Bidder will supply all information required by the Bid Form and Contract Documents.

1.9 MODIFICATIONS OR WITHDRAWAL OF BIDS

- A. A Bidder may withdraw and resubmit a Bid, provided that Bidder's request for withdrawal is received by the Owner in writing before the time specified for submittal of Bids. Revised Bids must be received at the place specified in the Contract Documents before the time and date specified for submittal of Bids. Modifications will not reveal original amount of bids. Bid Bonds must reflect modifications.
- B. Negligence on the part of the Bidder in the preparation of their Bid will not be grounds for modification or withdrawal of the Bid after the Bid Submittal time and date.

1.10 PUBLIC OPENING OF BIDS

- A. Bids will be opened and read publicly at the time and place specified in the Contract Documents. Bidders, their authorized agents, and other interested persons are invited to attend.
- B. Owner reserves the right to correct, in all Bids, obvious mathematical or transposition errors within the Bid Prices or Total Bid Price, as long as the intent of the Bidder is reasonably clear from the Bid.

- C. All Bids and other materials or documents submitted by a Bidder for this Project will become property of the Owner. The Owner is subject to the public records requirements of Florida State Statute Chapter 119, and as such, all materials submitted by the Bidder to the Owner are subject to public disclosure. The Bidder specifically waives any claims against the Owner related to the disclosure of any materials if made under a public records request.

1.11 REJECTION OF BIDS

- A. Bids containing any omission, alterations of form, additions or conditions not called for, conditional or alternate bids unless called for, incomplete bids, or Bids otherwise regular which are not accompanied by a Cashier's Check or Bid Bond may be considered irregular and may be rejected.
- B. The Owner reserves the right, in Owner's judgment and sole discretion, to reject any or all Bids, to waive any formalities, technicalities or irregularities therein, to avoid or refrain from awarding a contract for Work, and to re-advertise for Bids.
- C. Bids may be considered irregular for the following reasons:
 - 1. If the Bid is on a form other than that furnished by the Owner, or if the Owner's form is altered.
 - 2. If there are unauthorized additions, conditional or alternative pay items, or irregularities of any kind which made the Bid incomplete, indefinite or otherwise ambiguous.
 - 3. If the Bid is not accompanied by all the Documents listed in the Respondent Questionnaire Section on the Owner's e-Procurement Portal, located at <https://secure.procurenow.com/portal/tampaairport>.
 - 4. Submitting more than one Bid from the same partnership, firm or corporation under the same or different name.
 - 5. Evidence of collusion among Bidders. Bidders participating or previously participating in such collusion will be disqualified as Bidders for this and any future work of the Owner until any such participating Bidder has been reinstated by Owner as a qualified Bidder.
 - 6. Evidence that Bidder has a financial interest in the firm of another Bidder for the same Work.
 - 7. If the Bidder, employee or agent of the Bidder has a Conflict of Interest as determined by the Vice President of Procurement.
 - 8. If Bidder is considered to be "non-responsible" for any reason specified in Item 1.08-RESPONSIBILITY OF BIDDERS of this Section.

- D. Bids will be considered non-responsive for the following reasons:
1. If the bid is not accompanied by Section 00340-BID SCHEDULE or Section 00400-1-BID BOND.
 2. Bids received that do not meet the requirements specified in Section 1.14 - WOMAN AND MINORITY OWNED BUSINESS ENTERPRISE (W/MBE) POLICY AND PROGRAM.
 3. If Bidder cannot demonstrate ability to obtain Contract required insurance specified in Section 00650 – INSURANCE REQUIREMENTS.
- E. The Owner reserves the right to reject any and all Bids for any reason including but not limited to that the Bid is higher than the Owner approved budget or estimated project cost.

1.12 ESCROW OF BID DOCUMENTS

- A. Each Bidder agrees that all documents relied upon in making or supporting their Bid will be retained in escrow, in a manner satisfactory to the Owner, prior to the date the Contract is awarded and preserved and maintained during the course of the Work until Final Payment is made. The Owner will have the right to inspect any and all such Bid Documents and to verify that such Bid Documents are properly escrowed prior to the time of the Award of the Contract, or at any time thereafter during the course of the Work.

1.13 WOMAN AND MINORITY OWNED BUSINESS ENTERPRISE (W/MBE) POLICY AND PROGRAM

- A. Policy: It is the policy of the Owner that W/MBE as defined herein will have full and fair opportunities to compete for and participate in the performance of all non-federally funded contracts or in the purchase of goods and services procured by the Owner and the Bidder will take all necessary and reasonable steps to ensure that W/MBEs have full and fair opportunities to compete for and perform subcontracts. Bidders will demonstrate that they will subcontract with certified W/MBEs, or clearly demonstrate in a manner acceptable to the Owner its good faith efforts to obtain W/MBE subcontractors. The successful bidder's W/MBE commitment as stated on their Letter(s) of Intent will be enforceable under the terms of the Contract.

A business certified as a W/MBE by Hillsborough County, City of Tampa, State of Florida Office of Supplier Diversity (OSD) or as a DBE certified under the FLUCP program, will be eligible to participate on Owner funded contracts as a W/MBE firm pursuant to the Owner's W/MBE Policy and Program.

Bidders are encouraged to refer to the Owner's W/MBE Policy and Program which is posted on the Owner's website: www.TampaAirport.com. Links to the various websites that have directories of certified W/MBE firms are also available on the Owner's website.

- B. W/MBE Obligation: Each contract the Owner executes with the Bidder and each subcontract the Bidder executes with a subcontractor, must include the following

clause:

"The bidder/proposer, contractor, supplier/vendor and subcontractor will not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The bidder/proposer, contractor, supplier/vendor or subcontractor will carry out applicable requirements in the Owner's W/MBE policies and programs in the award and administration of Owner contracts. Failure of bidder/proposer, contractor, supplier/vendor or subcontractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as the Owner deems appropriate which may include, but not limited to:

- (1) Withholding monthly progress payments;
- (2) Assessing sanctions;
- (3) Assessing liquidated damages; and/or
- (4) Disqualifying the bidder/proposer, contractor, supplier/vendor or subcontractor from future bidding as non-responsible."

- C. Certification of Eligible W/MBEs: To ensure the eligibility of W/MBEs proposed to participate on the Contract, all W/MBEs must be certified by the FLUCP, City of Tampa, Hillsborough County or the State of Florida Office OSD. ***W/MBEs must be certified with the appropriate agencies at the time bids are received and Letters of Certification must be included in the sealed bid envelope when submitted to the Owner.***
- D. W/MBE Goals: W/MBE Goals may be established for contracts with subcontracting opportunities. No Goal for W/MBE participation has been established for this Contract. However, Bidders are strongly encouraged to propose participation by W/MBEs to perform commercially useful functions of the work required in the Bid by submitting a Letter of Intent for each W/MBE that Bidder proposes to participate in the Contract at the time the Bid is submitted to the Owner. If Bidder is a W/MBE, Bidder must submit a Letter of Intent for work the Bidder proposes to self-perform and count toward the Goal.
- E. Bidder Efforts to Meet W/MBE Subcontract Goals:
1. The Bidder will satisfy the Owner that it has made "Good Faith Efforts" to utilize W/MBEs in meeting the established Goal. "Good Faith Efforts" are those efforts that could reasonably be expected to result in W/MBE Goal attainment by a Bidder who aggressively and actively seeks to obtain W/MBE participation. Efforts that are merely "Pro Forma" are not "Good Faith Efforts" to meet W/MBE Goals. In determining whether or not the apparent successful Bidder has made such "Good Faith Efforts" to meet the Goal, some of the factors the Owner will consider are the following:
 - a. Whether the Bidder advertised in newspapers of general circulation, websites, trade association, and minority-focus media concerning the subcontracting opportunities prior to bid opening;
 - b. Whether the Bidder provided written notice by certified mail, facsimile or electronic mail prior to the bid submission date to a reasonable number of W/MBEs that their interest in the Contract was being solicited and giving W/MBE sufficient time to prepare a response to the

- request;
- c. Whether the Bidder followed up initial solicitations of interest by contacting W/MBEs to determine with certainty whether the W/MBEs were interested;
 - d. Whether the Bidder selected portions of the Work to be performed by W/MBEs in order to increase the likelihood of meeting the W/MBE Goals including, where appropriate, breaking down contracts into economically feasible units to facilitate W/MBE participation;
 - e. Whether the Bidder provided interested W/MBEs with adequate information about the Drawings, Specifications or requirements of the Contract;
 - f. Whether the Bidder negotiated in good faith with interested W/MBEs, not rejecting W/MBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;
 - g. Whether the Bidder made efforts to assist interested W/MBEs in obtaining bonding, lines of credit, or insurance required by the Owner or Contractor;
 - h. Whether the Bidder effectively used the services of available minority community organizations, minority trade or business groups, local, state and federal minority business assistance offices, and other organizations that provide assistance in the recruitment and placement of W/MBEs;
 - i. Whether the Scope of Work submitted by the Bidder to any W/MBE contractor, W/MBE subcontractor, W/MBE sub-subcontractor, W/MBE supplier, W/MBE sub-supplier or W/MBE sub-sub-supplier, and so on, either directly or in-directly, was intended to achieve, in whole or in part, the specified W/MBE participation;
 - j. Whether the replies or quotes from W/MBEs in response to Scopes of Work provided to them by contractors, either directly or indirectly, were fair and responsive;
 - k. Whether the Bidder fairly represented W/MBE quotations in the formulation of the Bidder's bid as shown on the Contractor's bid tabulation or other work documents supporting the Bidder's bid; and
 - l. Whether all other bidders met the W/MBE Goal but the apparent low bidder or most qualified bidder did not.
2. Bidders who do not meet the W/MBE Goal may satisfy the Good Faith Efforts requirement by documenting their efforts to do so. If the Owner subsequently determines that the Bidder did not satisfy the Good Faith Efforts, the Bidder is entitled, at their option, to the administrative reconsideration process as outlined in the Owner's W/MBE policy.

3. Any Bidder who meets the W/MBE Goal will be deemed to have made the necessary “Good Faith Efforts” without the need for further proof. Failure to meet the Goal or satisfy the Good Faith Efforts requirements, may cause the Bid to be determined to be non-responsive.
4. The Owner reserves the right to require such additional and supplemental information solely for the purpose of clarifying the W/MBE information submitted by the Bidder. The determination of whether Bidder’s efforts were made in “good faith” will be made by Owner.

1.15 SUSTAINABLE PROCUREMENT

When deemed appropriate by the Bidder and not in conflict with the Contract Documents, Bidders are encouraged to reduce use of products and materials that negatively impact human health and/or the environment.

END OF SECTION

SECTION 00300 - BID FORM

TO:

HILLSBOROUGH COUNTY AVIATION AUTHORITY
OWNER
Tampa International Airport
Post Office Box 22287
Tampa, Florida 33622

FROM:

BIDDER NAME U.S. Coating Specialists, LLC
STREET ADDRESS 7410 S US Highway 1, Suite #402
CITY, STATE, ZIP Port Saint Lucie, FL 34952
DATE 1/11/2023 PHONE 800-779-0821
E-MAIL anthony@uscoatingspec.com
(Person to receive recommendation of award notification)

1.01 The undersigned Bidder hereby certifies the following: (1) it has accurately identified all persons required by the applicable signature block; (2) the Bid Prices are fair, in all respects, and made in good faith, without collusion or fraud; (3) no officer, employee or agent of the Owner and no spouse or child of an officer, employee, or agent of the Owner, has, or will have during the performance of the Contract, any material interest in the business of the Bidder, and (4) Bidder has no knowledge of any potential conflict of interest.

The Bidder further represents that it has carefully examined the site of the Work, the Contract Documents, the Addenda furnished prior to the opening of the Bids and existing Owner records for the Work contemplated during the Bid submittal period. By submitting a Bid, the Bidder represents to the Owner that the Bid and the Contract are inclusive of sufficient compensation for performing adequate investigations of existing site conditions, the Contract Documents, and existing records to sufficiently support the design developed by the Bidder. The Bidder further acknowledges that any information provided by the Owner was to assist the Bidder in completing adequate investigations. In addition, the Bidder represents that it has investigated and is fully informed of the conditions to be encountered, of the character, quality and quantities of Work to be performed and materials to be furnished and has included in the Bid and Contract all items necessary for the proper execution and completion of the Work in accordance with the requisite time frame, applicable laws, statutes, building codes, regulations, or as otherwise required by the Contract Documents.

The undersigned, as Bidder, does hereby declare that, having familiarized itself with the local conditions affecting the cost of the Work, Owner's policies, procedures, rules, regulations and manuals affecting the cost of the Work, Contract Documents including the Project Manual (consisting of Bidding and Contract Requirements, and the Specifications), Drawings, and other related Contract Documents prepared by the Owner and titled: North Air Cargo Roof Rehabilitation.

Airport Name: Tampa International Airport
Authority Project No.: 6530 18
Project Title: North Air Cargo Roof Rehabilitation
Dated: November 16, 2022

together with all Addenda to such Contract Documents as acknowledged in the Authority's e-Procurement Portal, it proposes to furnish all materials and labor specified and perform all Work required in strict accordance with the provisions of Contract Documents noted above for the consideration of the prices quoted in Bid Pricing Form in the Authority's e-Procurement Portal, titled the same as written above, attached hereto and incorporated by reference.

The undersigned understands that the estimated quantities shown in the Bid Pricing Form are approximate only and are intended principally to serve as a guide in evaluating Bids and are subject to either increase or decrease.

- 1.02 The undersigned affirms that in making such Bid, neither Bidder nor any company that Bidder may represent, nor anyone on behalf of Bidder or Bidder's company, directly or indirectly, has entered into any combination, collusion, undertaking or agreement with any other Bidder or Bidders to control the prices of said Work, or any compact to prevent any other Bidder or Bidders from bidding on said Contract or Work, and further affirms that such Bid is made without regard or reference to any other Bidder or Bid and without any agreement or understanding or combination, either directly or indirectly, with any other person or persons with reference to such bidding in any way or manner whatsoever. The undersigned acknowledges that the Owner is relying on the statements made herein.
- 1.03 Each Bidder agrees that all documents relied upon in making or supporting their Bid will be retained in escrow prior to the date the Contract is awarded and will be preserved and maintained during the course of the Work until Final Payment is made. The Owner will have the right to inspect any and all such Bid Documents and to verify that such Bid Documents are properly escrowed, in a manner satisfactory to the Owner, prior to the time of the award of the Contract, or at any time thereafter during the course of the Work.
- 1.04 The undersigned, when notified of the acceptance of this Bid, does hereby agree to enter into a Contract and return such signed (executed) Contract to the Owner along with the fully executed Performance Bond and Payment Bond with good and sufficient Surety and furnish the required Certificates of Insurance and Insurance Policy endorsements, within seven days after the date of award of the Contract.

A preliminary Construction Schedule (based on major items) as required by Section 01315 - SCHEDULES, PHASING will be provided to the Owner by the undersigned within 15 days from the date of the award of the Contract, and will be in accordance with the provisions of the Contract Documents.

The undersigned further agrees that if awarded the Contract, Bidder will commence the Work within ten days after the date of Notice to Proceed and that Bidder will achieve Substantial Completion within 319 days after Notice to Proceed.

The Owner may issue a Notice to Proceed seven days after the date of award of the Contract. However, the Contractor will not use or occupy Owner's premises in connection with the Contract until all documentation required by the Contract Documents has been submitted, accepted and executed by the Owner. Refer to Section 00500 - AWARD OF CONTRACT AND EXECUTION OF CONTRACT BONDS and Section 00650 – INSURANCE REQUIREMENTS.

Should the undersigned fail to achieve Substantial Completion within the time(s) specified in the Contract and the Contract Documents, the Owner may retain the sum specified in the Contract for each day that the Work remains incomplete beyond the time limit(s), which sum will represent not a penalty but liquidation of a reasonable portion of the damages that will be incurred by the Owner by failure of the undersigned to complete the Work within the days stipulated. The undersigned agrees that the assessment of actual damages at the time the Contract is entered into is uncertain. By bidding on the project, the undersigned signifies that it agrees that the sum specified in the Contract for the Liquidated Damages is reasonable. The undersigned agrees that the Liquidated Damages in the Contract are solely for delay and loss of use.

- 1.05 In submitting this Bid, it is understood that the right is reserved by the Owner to waive formalities, technicalities and irregularities and to reject all Bids. It is agreed that this Bid may not be withdrawn for a period of 85 calendar days (or 115 calendar days if federal funds are applicable) after the opening thereof.
- 1.06 The Bidder attaches hereto a Cashier's Check or Bid Bond payable to the Hillsborough County Aviation Authority, as required under Section 00020 – INVITATION TO BID, and the Bidder agrees that in case Bidder fails to fulfill obligations under the Bid, the Owner, may, at its option, determine that the Bidder has abandoned Bidder's rights and interest in such Bid and that the Cashier's Check or Bid Bond accompanying their Bid has been forfeited to the Owner as liquidated damages. Otherwise, the Cashier's Check or Bid Bond will be returned to the Bidder upon the execution and return of the Contract and the acceptance of the Bonds and Insurance, or upon rejection of the Bid. The Bidder agrees that the Liquidated Damages are not a penalty and 5% of the total bid amount is reasonable.
- 1.07 The undersigned affirms that Bidder has completed, signed and included in its Bid submission all documents as required in the Minimum Qualifications section of the Authority's e-Procurement Portal.

When a determination has been made to award a Contract to a specific Bidder, such Bidder will, prior to award, furnish such other pertinent information and assurances regarding Bidder's proposed subcontractors, as the Owner, the FAA, the Secretary of Labor, FDOT, and/or the Office of Federal Contract Compliance (OFCC) may require. The Bidder will furnish similar statements executed by each of Bidder's first-tier and second-tier subcontractors whose Contracts equal \$10,000 or more and will obtain similar compliance by such subcontractors before awarding such subcontracts. No subcontract will be awarded to any non-complying Subcontractor.

It is understood and agreed that all workmanship and materials under all items of work are guaranteed for one year from the date of substantial completion, unless otherwise specified within the Contract Documents.

The undersigned agrees that the Contract Sum will be decreased or increased where planned quantities shown on the Drawings are decreased or increased, and that such increases or decreases will be determined by use of the applicable Unit Price shown on the Unit Price "Bid Schedule."

1.09 The legal status of the undersigned is: (The Bidder will complete A. and the appropriate portion of B. or C. and strike out the other one.)

A. Federal Employer Identification (FEI) number: 35-2603901

B. Corporation:

1. A corporation, duly organized and doing business under the laws of the State of Florida, for whom, bearing official title of President, whose signature is affixed to this bid, is duly authorized to execute contracts.

Date of Incorporation: 08/2017

Name and address of Florida registered agent for service of process:

Jeff Miller
7410 S US Highway One, Suite 402, Port Saint Lucie, FL 34952

2. If Foreign Corporation (non-Florida):
Date of Certificate of Authority to transact business in Florida: _____

Name and address of Florida registered agent for service of process:

C. Partnership:

A partnership, all of the members of which, with addresses are: (Designate general partners as such).

continue if required . . .

If all partners are non-residents of Florida: Designate name and address of Florida registered agent required for service of process.

Name and address of Florida registered agent for service of process:

D. Other Entity

A _____, duly organized and duly doing business under the laws of the State of _____, for whom, bearing the title of _____, whose signature is affixed to this bid, is duly authorized to execute contracts.

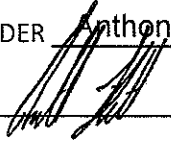
Name and address of Florida registered agent for service of process:

ALL BIDDERS MUST SIGN AND EXECUTE THE FOLLOWING:

Dated and signed at _____

on this 11 day of January, 2023.

NAME OF BIDDER Anthony Flett

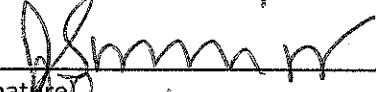
By: 
(Signature)


TITLE President

BUSINESS ADDRESS _____

7410 S US Highway One, Suite 402, Port Saint Lucie, FL 34952

WITNESSES:

By: 
(Signature)

By: 
(Signature)


END OF SECTION

SECTION 00350 - BID AFFIDAVIT

The following affidavit will be executed in order that your Bid may be considered:

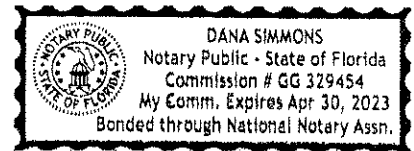
STATE OF Florida
COUNTY OF St. Lucie

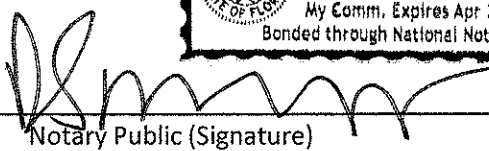
Anthony Flett of lawful age, being first duly sworn, deposes and says: That it executed the accompanying Bid on behalf of the Contractor named herein, and that it had lawful authority so to do, and said Contractor has not directly or indirectly entered into any agreement, express or implied, with any contractor or contractors, having for its object the controlling of the price or amount of such Bid or any Bids, the limiting of the Bid of contractors, the parceling or farming out to any contractor or contractors or to other persons of any part of the Contract or any of the subject matter of the Bids, or of the profits thereof, and that it has not and will not divulge the sealed Bid to any person whomsoever, except those having a partnership or other financial interest with them in said Bid or Bids, until after the sealed Bid or Bids are opened.

Signed By: 

Subscribed and sworn to before me this 11th day of January, 2023.

My Commission Expires:
April 30, 2023



By: 
Notary Public (Signature)

[Affix Corporate Resolution if not signed by the President or Vice President of the Company]

END OF SECTION

(NOT TO BE FILLED OUT IF A CASHIER'S CHECK IS SUBMITTED)

KNOW ALL MEN BY THESE PRESENTS: That the undersigned U.S. Coatings Specialists, LLC

as Principal, and FCCI Insurance Company

as Surety, are held and firmly bound unto the Hillsborough County Aviation Authority in the sum of 5% of the bid amount shown on the BID SCHEDULE for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

THE CONDITION OF THIS OBLIGATION is such that if Principal:

- 1. Does not withdraw the attached Bid Amount shown on the BID SCHEDULE for the Authority Project No. 6530 18 entitled North Air Cargo Roof Rehabilitation at Tampa International Airport for a period of 85 calendar days (or 115 calendar days if federal funds are applicable) after the date on which the Bids are opened; and
- 2. Enters into a written Contract and furnishes the required Insurance, Certificates of Insurance and Payment and Performance Bonds with surety or sureties acceptable to the Hillsborough County Aviation Authority within seven days after the date of award of the Contract, then this obligation will be void; Otherwise the same will be in full force and the full amount of this Bid Bond will be paid to the Hillsborough County Aviation Authority as stipulated herein.

Signed this 11th day of January, 2023

CONTRACTOR MUST INDICATE WHETHER CORPORATION, PARTNERSHIP, COMPANY, (OR INDIVIDUAL). THE PERSON SIGNING FOR THE CONTRACTOR WILL SIGN HIS/HER OWN NAME AND SIGN CORPORATE TITLE. WHEN THE PERSON SIGNING FOR A CORPORATION IS OTHER THAN THE PRESIDENT OR VICE PRESIDENT, HE/SHE MUST FURNISH A CORPORATE RESOLUTION SHOWING HIS/HER AUTHORITY TO BIND THE CORPORATION

(Affix Contractor's Corporate Seal)
U.S. Coating Specialists, LLC
 Name of Contractor

By: [Signature]
 (Signature)

Type Name and Title Below: Anthony Flett
 President

Address: 2355 SE Seafury Lane
Port St. Lucie, FL 34952
800-779-8211 772-264-3145
 Telephone Number Fax Number

(Affix Surety's Corporate Seal)

FCCI Insurance Company
 Name of Surety

By: [Signature]
 Attorney in Fact for Surety (Signature)

By: [Signature]
 Florida Licensed Agent (Signature)

Type name of Attorney in Fact: Clinton J. Diers
 Type name of Fla. Licensed Agent: Laura Dipersico

Attorney in Fact Address: 4400 PGA Blvd., Ste 1000
Palm Beach Gardens, FL 33410
561 209 1689 212 948 5658
 Telephone Number Fax Number

License Number: A-069015
 Agent Address: 4400 PGA Blvd., Ste 1000
Palm Beach Gardens, FL 33410
561 209 1689 212 795 1370
 Telephone Number Fax Number

TPA / North Air Cargo Roof Rehabilitation

SECTION 00400 2-SURETY BOND AFFIDAVIT

STATE OF Florida
COUNTY OF Palm Beach

BEFORE ME, THE UNDERSIGNED AUTHORITY, PERSONALLY APPEARED Clinton J. Diers, WHO, BEING DULY SWORN, DEPOSES AND SAYS THAT THEY ARE A DULY AUTHORIZED FLORIDA LICENSED INSURANCE AGENT, PROPERLY LICENSED UNDER THE LAWS OF THE STATE OF Virginia, TO REPRESENT FCCI Insurance Company OF 6300 University Parkway, Sarasota, FL 34240, A COMPANY AUTHORIZED TO MAKE CORPORATE SURETY BONDS UNDER THE LAWS OF THE STATE OF Florida (THE "SURETY").

SAID Clinton J. Diers FURTHER CERTIFIES THAT AS AGENT FOR THE SAID FCCI Insurance Company

THEY HAVE SIGNED THE ATTACHED BOND AS A LICENSED AGENT, IN THE SUM OF 5% OF THE BID AMOUNT SHOWN ON THE BID SCHEDULE, ON BEHALF OF FCCI Insurance Company, TO THE **HILLSBOROUGH COUNTY AVIATION AUTHORITY COVERING PROJECT NO. 6530 18, NORTH AIR CARGO ROOF REHABILITATION** at TAMPA INTERNATIONAL AIRPORT, TAMPA, FLORIDA.

SIGNED: [Signature]
By: _____
Florida Licensed Insurance Agent (Signature)

FCCI Insurance Company
SURETY: [Signature]
By: _____
Attorney-in-Fact (Signature)

4400 PGA Blvd, Ste 1000, Palm Beach Gardens, FL 33410
Address Of Agent

Acknowledgment For
Attorney-in-Fact

The foregoing instrument was acknowledged before me by means of physical presence or online notarization this 11th day of January, 2023 by Clinton J. Diers (name of person) as Attorney-in-Fact

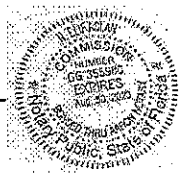
561 209 1689
Phone Number

Public

By: [Signature]
(Signature of Notary)

Fax Number
6300 University Parkway, Sarasota, FL 34240
Address Of Bond Company
800-226-3224
Phone Number
n/a
Identification
Fax Number

By: [Signature]
(Signature of Notary Public)
N. Elif Aslan
Print, Type, or Stamp Commissioned Name of Notary



Personally Known ~~XXXXXXXXXX~~
Type of Identification Produced

END OF SECTION



GENERAL POWER OF ATTORNEY

Know all men by these presents: That the FCCI Insurance Company, a Corporation organized and existing under the laws of the State of Florida (the "Corporation") does make, constitute and appoint:

Elif Aslan; Ivonne DeArmas; Roxana Sora; Clinton J. Diers

Each, its true and lawful Attorney-In-Fact, to make, execute, seal and deliver, for and on its behalf as surety, and as its act and deed in all bonds and undertakings provided that no bond or undertaking or contract of suretyship executed under this authority shall exceed the sum of (not to exceed \$20,000,000.00): \$20,000,000.00

This Power of Attorney is made and executed by authority of a Resolution adopted by the Board of Directors. That resolution also authorized any further action by the officers of the Company necessary to effect such transaction.

The signatures below and the seal of the Corporation may be affixed by facsimile, and any such facsimile signatures or facsimile seal shall be binding upon the Corporation when so affixed and in the future with regard to any bond, undertaking or contract of surety to which it is attached.

In witness whereof, the FCCI Insurance Company has caused these presents to be signed by its duly authorized officers and its corporate Seal to be hereunto affixed, this 23rd day of July, 2020.

Attest: Christina D. Welch
Christina D. Welch, President
FCCI Insurance Company

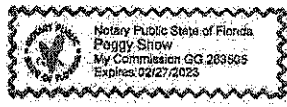


Christopher Shoucair
Christopher Shoucair,
EVP, CFO, Treasurer, Secretary
FCCI Insurance Company

State of Florida
County of Sarasota

Before me this day personally appeared Christina D. Welch, who is personally known to me and who executed the foregoing document for the purposes expressed therein.

My commission expires: 2/27/2023

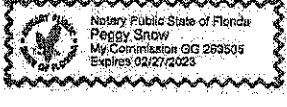


Peggy Snow
Notary Public

State of Florida
County of Sarasota

Before me this day personally appeared Christopher Shoucair, who is personally known to me and who executed the foregoing document for the purposes expressed therein.

My commission expires: 2/27/2023



Peggy Snow
Notary Public

CERTIFICATE

I, the undersigned Secretary of FCCI Insurance Company, a Florida Corporation, DO HEREBY CERTIFY that the foregoing Power of Attorney remains in full force and has not been revoked; and furthermore that the February 27, 2020 Resolution of the Board of Directors, referenced in said Power of Attorney, is now in force.

Dated this 11th day of January, 2023

Christopher Shoucair
Christopher Shoucair, EVP, CFO, Treasurer, Secretary
FCCI Insurance Company

SECTION 00417 - WOMAN AND MINORITY OWNED BUSINESS ENTERPRISE (W/MBE) ASSURANCE AND PARTICIPATION

NORTH AIR CARGO ROOF REHABILITATION
AUTHORITY PROJECT NO. 6530 18
TAMPA INTERNATIONAL AIRPORT

Select one of the following responses below.

No. Bidder is NOT proposing W/MBE Goal.

No specific Goal for W/MBE participation has been established for this Solicitation; however, the Bidder will make a good faith effort, in accordance with Authority's W/MBE Policy and Program, throughout the term of the awarded Contract, to subcontract with W/MBE firms certified as a woman-owned or minority-owned business by the City of Tampa, Hillsborough County, State of Florida Department of Management Services, Office of Supplier Diversity (OSD), or as a Disadvantaged Business Enterprise (DBE) under the Florida Unified Certification Program (FLUCP), in the performance of the awarded Contract.

OR

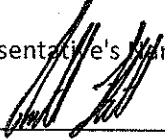
Yes. Bidder is proposing W/MBE participation Goal.

The Bidder assures that it will subcontract with W/MBE firms in an amount equal to at least _____% of the total dollar amount of the awarded Contract. The Bidder is required to submit a Letter of Intent for each W/MBE that is proposed to participate in the awarded Contract at the time the Bid is submitted to the Owner. The actual W/MBE contractual commitment will be the total amount of participation shown on the validated Letter(s) of Intent submitted by the Bidder. It is understood that the amounts shown on the Letter(s) of Intent are estimates and that actual amounts paid to W/MBE subcontractors may vary depending on the final adjustments of the estimated quantities; however, the W/MBE contractual commitment can only be modified by an amendment or change order.

By: Name of Bidder: Anthony Flett

Date: 1/11/2023

Bidder Representative's Name:



Title: President

(Bidder Representative's Signature)

SECTION 00417 - WOMAN AND MINORITY OWNED BUSINESS ENTERPRISE (W/MBE) ASSURANCE AND PARTICIPATION

NORTH AIR CARGO ROOF REHABILITATION
AUTHORITY PROJECT NO. 6530 18
TAMPA INTERNATIONAL AIRPORT

Letter of Intent Instructions Checklist

Follow this checklist when completing the Letter of Intent.

- A separate Letter of Intent has been completed for each proposed W/MBE firm.
- The Bidder's name, address, telephone number, FAX number and e-mail address has been entered.
- The proposed W/MBE firm's name, address, telephone number, FAX number and e-mail address has been entered.
- The description of the work to be performed by the W/MBE firm has been entered.
- The amount of the proposed W/MBE firm's subcontract has been entered.
- The Bidder has completed and signed the Commitment section.
- The W/MBE firm has completed and signed the Affirmation section.
- A copy of the W/MBE firm's certification letter by the City of Tampa, Hillsborough County, State of Florida Department of Management Services, Office of Supplier Diversity (OSD) or DBE certification letter under the Florida Unified Certification Program (FLUCP) is attached to the Letter of Intent. W/MBE firm should be certified in the NAICS code and/or description of work that Bidder has indicated as scope of services W/MBE will perform under the Contract.

SECTION 00417 - WOMAN AND MINORITY OWNED BUSINESS ENTERPRISE (W/MBE) ASSURANCE AND PARTICIPATION

NORTH AIR CARGO ROOF REHABILITATION
AUTHORITY PROJECT NO. 6530 18
TAMPA INTERNATIONAL AIRPORT

Letter of Intent

Name of Bidder's firm: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Fax number: _____
E-mail: _____

Name of W/MBE firm: _____
Address: _____
City: _____ State: _____ Zip Code: _____
Phone: _____ Fax number: _____
E-mail: _____

Description of work to be performed by W/MBE firm: _____

Amount of the W/MBE firm's subcontract \$ _____

Commitment

The Bidder is committed to utilizing the above-named W/MBE firm for the work described above.

By: Name of Bidder: _____ Date: _____

Bidder Representative's Name: _____ Title: _____

(Bidder Representative's Signature)

Affirmation

By: Name of W/MBE Firm: _____ Date: _____

W/MBE Representative's Name: _____ Title: _____

(W/MBE Representative's Signature)

SECTION 00417 - WOMAN AND MINORITY OWNED BUSINESS ENTERPRISE (W/MBE) ASSURANCE AND PARTICIPATION

NORTH AIR CARGO ROOF REHABILITATION
AUTHORITY PROJECT NO. 6530 18
TAMPA INTERNATIONAL AIRPORT

Letter of Intent

If the Bidder does not receive award of the Contract, any and all representations in this Letter of Intent will be null and void.

NOTE: The cost of materials and/or supplies obtained and/or equipment leased by the W/MBE to perform the subcontract work (except supplies and equipment the W/MBE subcontractor purchases or leases from the prime contractor or its affiliate) may be included in the subcontract amount. In addition, the Owner will count 100% of the expenditures on materials and/or supplies obtained from a W/MBE manufacturer or regular dealer. With respect to materials or supplies purchased from a W/MBE which is neither a manufacturer nor a regular dealer, the Owner will count only the amount of fees or commissions charged for assistance with the procurement of the material or supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site.

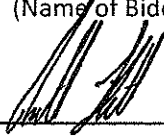
END OF SECTION

SECTION 00418 - CERTIFICATE OF NON-SEGREGATED FACILITIES

CERTIFICATION TO BE SUBMITTED BY CONSTRUCTION CONTRACTORS OF APPLICANTS AND THEIR SUBCONTRACTORS (APPLICABLE TO CONSTRUCTION CONTRACTS AND RELATED SUBCONTRACTS EXCEEDING TEN THOUSAND DOLLARS (US \$10,000.00) WHICH ARE NOT EXEMPT FROM THE EQUAL OPPORTUNITY CLAUSE)

The construction Contractor certifies that it does not maintain or provide, for its employees, any segregated facilities at any of its establishments and that construction Contractor does not permit its employees to perform their services at any location, under construction Contractor's control, where segregated facilities are maintained. The construction Contractor certifies that it will not maintain or provide, for its employees, segregated facilities at any of its establishments and that construction Contractor will not permit its employees to perform their services at any location, under construction Contractor's control, where segregated facilities are maintained. The construction Contractor agrees that a breach of this certification is a violation of the equal opportunity clause in this Contract. As used in this certification, the term "segregated facilities" means any waiting room, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, and transportation and housing facilities provided for employees which are segregated by explicit directives or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The construction Contractor agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding ten thousand dollars (US \$10,000.00) which are not exempt from the provisions of the equal opportunity clause and that construction Contractor will retain such certifications in its files.

Anthony Flett

(Name of Bidder)
By: 

(Signature*)
Title: President
Date: 1/11/2023

* Must be same signature on Bid Form.

END OF SECTION

SECTION 00420 - BIDDER'S GENERAL BUSINESS INFORMATION

(Bidders will fully respond to all items)

Each Bidder will furnish with their Bid the following completed and signed statement pertaining to the Bidder's general business information. In addition, the Owner reserves the right to conduct additional investigations into the Bidder's financial viability, work experience and available assets as the Owner may deem necessary to facilitate administration of the Contract in accordance with the Contract Documents. Each Bidder will fully cooperate with all such investigations.

FIRM: U.S. Coating Specialists, LLC

ADDRESS: 7410 S US Highway 1, Suite #402
Port Saint Lucie, FL 34952

PHONE: 800-779-0821

Contact in your firm for inquiries: Lauren Bevins

Years in business under present name: 5 years

Date of Incorporation: 08/2017

Place of Incorporation: St. Lucie County

Contracting specialties: Roofing-Traditional, Foam and Silicone Roofing Systems

Years performing work specialties: 5

Geographic areas of business operation: State of Florida

List all Projects presently under contract:

Club Med Resort Buildings A-F (Silicone Coatings and Traditional Roofing Systems)

Piper Aircraft, Inc. Phase 2 (4) Buildings (Mod Bit., TPO & Foam and Silicone)

Pep Boys (TPO)

Port Of Manatee Warehouse #10 (Metal)

7-Eleven Inc. (Foam and Silicone)

(Attach additional sheet(s) if necessary)

Work performed in last two years:

Piper Aircraft Phase 1 (Foam and Silicone Roofing Systems)

Marriott Lake Mary (Silicone)

Marriott Palm Beach Gardens (Silicone)

Piper Building 20 (Mod Bit)

Sky King Fireworks - 4 Locations (Silicone)

Port of Manatee Warehouse #2 (Metal/Purlin Replacement)

(Attach additional sheet(s) if necessary)

Contract value of work presently under construction:

\$ 3,598,839.63

Average annual contract value of construction work last three years:

\$ 3,682,594.77

Total bonding capacity:

\$ 3,000,000.00

Value of work presently bonded:

\$ 2,481,000.00

Bonding Company:

Marsh and McLennan Agency

Address:

4900 Libbie Mill East Blvd., Suite 100, Richmond VA 23230

Insurance Agent:

Freedom Consulting Insurance LLC

Address:

10217 SE Lennard Rd., Port St. Lucie, FL 34952

Phone:

(772) 812-2929

What types of work are generally performed by your own forces?

Traditional Roofing

Foam and Silicone Roof Coatings

Polyurea Coatings

Alchemco/TechCrete for Preservation of Concrete

(Attach additional sheet(s) if necessary)

What work will be performed by your own forces on this Project?

Sheet Metal and Coatings

(Attach additional sheet(s) if necessary)

Total employees employed by firm: 20

Engineers & Design Professionals	<u>N/A</u>	Estimators	<u>2</u>
CPM Schedulers	<u>N/A</u>	Tradesmen	<u>2</u>
Project Managers	<u>2</u>	Purchasing Agents	<u>1</u>
Superintendents	<u>1</u>	Other(Describe)	<u></u>
		Crew Members - 12	<u></u>

In-House Engineering or fabrication capability: N/A

Fabricating floor area (square feet): N/A

Value of capital equipment owned by firm: \$ 890,000.00

Bank references and addresses:

iThink Financial

610 Delaware Ave, Fort Pierce, FL 34950

Brenda Parmalee (772) 293-0226

Does the firm have experience with projects of a similar nature and scope within the past ten years? If yes, describe:

Project and Location	Design Professional	Contract with (Firm, Address, Person, Phone)	Amount	Date Completed
<u>Piper Aircraft 4&5 Vero Beach, FL.</u>	<u>Florida Engineering & Testing, Inc.</u>	<u>2926 Piper Drive, Vero Beach, FL 32960 Duane Hoppe 772-299-2385</u>	<u>\$855,450.35</u>	<u>11/2022</u>
<u>Salem Center Jacksonville, FL</u>	<u>N/A</u>	<u>7235 Bonnaval Rd., Jax, FL 32256 John McClellan 904-861-0444</u>	<u>\$160,000.00</u>	<u>09/2022</u>
<u>Hilton Las Palmeras Orlando, FL</u>	<u>N/A</u>	<u>8501 Universal Blvd. Orlando, FL 32819 Rick Pellitier 407-233-2973</u>	<u>\$230,000.00</u>	<u>1/2019</u>
<u>Mariott Lake Mary, FL</u>	<u>N/A</u>	<u>1501 International Parkway, Lake Mary, FL 32746 John Bridgers 856-952-5396</u>	<u>\$320,000.00</u>	<u>12/2021</u>

(Attach additional sheet(s) if necessary)

Has the firm failed to complete a contract within the past ten years? If yes, describe:

No

(Attach additional sheet(s) if necessary)

Has the firm been debarred, suspended or prohibited from contracting or bidding with a Federal, State or local Government entity during the past ten years? If yes, describe:

No

(Attach additional sheet(s) if necessary)

Has the firm been involved in a bankruptcy or reorganization within the past ten years? If yes, describe:

No

(Attach additional sheet(s) if necessary)

Does the firm have any pending claims or suits by others against firm? If yes, describe:

No

(Attach additional sheet(s) if necessary)

Does the firm have any pending claims or suits against others? If yes, describe:

No

(Attach additional sheet(s) if necessary)

Has the firm filed written claims or suits against others within the past two years? If yes, describe:

No

(Attach additional sheet(s) if necessary)

Has the firm been assessed liquidated damages within the past five years? If yes, describe:

No

(Attach additional sheet(s) if necessary)

Has the firm been refused a bond within the past five years? If yes, describe:

No

(Attach additional sheet(s) if necessary)

Is the firm in compliance with all EEO requirements? N/A - Not Applicable

List three most significant projects presently under construction:

Project and Location	Design Professional	Contract with (Firm, Address, Person, Phone)	Amount	Date Completed
Port of Manatee Warehouse #10	N/A	300 Tampa Bay Way, Palmetto, FL 34221 Palmetto, FL 34221	\$2,481,000.00	January 2023
Piper Aircraft Phase 2	Florida Engineering & Testing, Inc.	2926 Piper Drive Vero Beach, FL 32960	\$804,887.96	2 buildings completed 1/2023 remaining 2 bldgs will be completed 2/2023
Club Med Resort Buildings A, B, E, F	Florida Engineering & Testing, Inc.	4500 SE Pine Valley St. Pt. St. Lucie, FL 34952	\$438,747.41	Completed by 11/2022

(Attach additional sheet(s) if necessary)

TPA / North Air Cargo Roof Rehabilitation



Ron DeSantis, Governor

Melanie S. Griffin, Secretary



STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE ROOFING CONTRACTOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

BRUNKE, ROBERT DOUGLAS

US COATING SPECIALISTS LLC
500 FARMERS MARKET RD
FORT PIERCE FL 34982-6663

LICENSE NUMBER: CCC1331851

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at [MyFloridaLicense.com](https://www.MyFloridaLicense.com)



Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

SECTION 00421 - SCRUTINIZED COMPANY CERTIFICATION

This certification is required pursuant to Florida Statute Section 287.135.

As of July 1, 2018, a company that, at the time of bidding or submitting a bid/response for a new contract/agreement or when entering into or renewing a contract/agreement for goods or services, is on the Scrutinized Companies that Boycott Israel List, created pursuant to Florida Statute Section 215.4725, or is engaged in a boycott of Israel, is ineligible for, and may not bid on, submit a proposal/response for, or enter into or renew a contract/agreement with an agency or local governmental entity for goods or services of any amount.

Additionally, as of July 1, 2018, a company that, at the time of bidding or submitting a bid/response for a new contract/agreement or when entering into or renewing a contract/agreement for goods or services, is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Florida Statute Section 215.473, or has been engaged in business operations in Cuba or Syria, is ineligible for, and may not bid on, submit a proposal/response for, or enter into or renew a contract/agreement with an agency or local governmental entity for goods or services of \$1 million or more.

Each Bidder and any subcontractor(s) it proposes for contracts/agreements of \$1 million or more, or for any amount if on the Scrutinized Companies that Boycott Israel List or if engaged in a boycott of Israel, must submit a fully executed copy of this form. If the Bidder is found to have submitted a false certification, been placed on the Scrutinized Companies that Boycott Israel List, is engaged in a boycott of Israel, or for any contract for goods or services of \$1 million or more, has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or is found to have been engaged in business operations in Cuba or Syria, the Owner may terminate any resulting contract.

Company: U.S. Coating Specialists, LLC FID or EIN No.: 35-2603901

Address: 7410 S US Highway 1, Suite #402 City/State/Zip: Port Saint Lucie, FL 34952

I, Anthony Flett, as a representative of U.S Coating Specialists, LLC

certify and affirm that this company, nor any of its wholly owned subsidiaries, majority-owned subsidiaries, parent companies, or affiliates of such entities or business associations, is not on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and is not engaged in business operations in Cuba or Syria if the resulting contract/agreement is for goods or services of \$1 million or more, and certify and affirm that this company, nor any of its wholly owned subsidiaries, majority-owned subsidiaries, parent companies, or affiliates of such entities or business associations, is not on the Scrutinized Companies that Boycott Israel List and is not engaged in a boycott of Israel if the resulting contract/agreement is for goods or services of any amount.

I understand and agree that the Owner may immediately terminate any contract resulting from this solicitation upon written notice if the undersigned entity (or any of those related entities as set out above) are found to have submitted a false certification or any of the following occur with respect to the company or a related entity: (i) it has been placed on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, or (ii) for any contract for goods or services of \$1 million or more, it has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or it is found to have been engaged in business operations in Cuba or Syria.



_____ Signature	_____ President
Anthony Flett Printed Name	1/11/2023 Date

END OF SECTION

SECTION 00422 - E-VERIFY CERTIFICATION

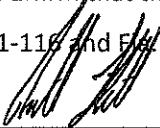
This certification is required in accordance with the State of Florida, Office of the Governor, Executive Order Number 11-116 (Verification of Employment Status) and Fla. Stat. Section 448.095.

The State of Florida, Office of the Governor, Executive Order Number 11-116 (Verification of Employment Status), and any projects with Florida Department of Transportation (FDOT) funding as part of a Joint Participation Agreement between FDOT and the Authority, require, as a condition of all contracts for the provision of goods or services, an express requirement that contractors utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the contractor during the term of the contract, and an express requirement that contractors include in subcontracts the requirement that subcontractors performing work or providing services pursuant to the contract utilize the E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.

Company: U.S. Coating Specialists, LLC FID or EIN No.: 35-2603901

Address: 7410 S US Highway 1, Suite #402 City/State/Zip: Port Saint Lucie, FL 34952

I, Anthony Flett, as a representative of U.S. Coating Specialists, LLC certify and affirm that this company will comply with the E-Verification requirements of Executive Order Number 11-116 and Fla. Stat. Section 448.095.

 _____ Signature	<u>President</u> _____ Title
<u>Anthony Flett</u> _____ Printed Name	<u>1/11/2023</u> _____ Date

[Affix Corporate Resolution if not signed by the President or Vice President of the Company]

END OF SECTION

SECTION 00423 - NON-COLLUSION CERTIFICATION

The essence of competitive bidding is that the Owner shall receive bona fide competitive Bids from all those bidding. In recognition of this principle, the undersigned certifies that this is a bona fide Bid, intended to be competitive, and that Bidder has not fixed or adjusted the amount of the Bid price by, or under, or in accordance with any agreement or arrangement with any other person or entity. The undersigned, who has Authority to make the following representation on behalf of the Bidder, also certifies that Bidder has not done and will not do at any time before the hour and date specified for the submission of the Bid any of the following acts:

- (a) communicate to a person other than the person soliciting for these Bids the amount or approximate amount of the Bid price, except where the disclosure, in confidence, of the approximate amount of the Bid price is necessary to obtain insurance premium and/or bond quotations required for the preparation of the Bid;
- (b) enter into any agreement or arrangement with any other person or entity that such person or entity shall refrain from bidding or as to the amount of any Bid price to be submitted;
- (c) offer, pay, give or agree to pay, offer or give any sum of money or valuable consideration directly or indirectly to any person or entity for doing or having done or having caused to be done in relation to any other Bid or Bid price for the said work, act or thing of the sort described above.

In this certificate, the word "person" includes any persons or any body or association, corporate or unincorporated; and any agreement or arrangement includes any such transaction, formal or informal and whether legally binding or not.

Signed:  _____

Witnessed By: Dana Simmons

Name: Anthony Flett

Date: 1/11/2023

For and on behalf of: U.S. Coating Specialists, LLC
[Bidder's Name]

END OF SECTION

SECTION 00430 - SUBCONTRACTORS LIST

THIS SUBCONTRACTORS LIST IS REQUIRED FOR SUBMISSION WITH BID DOCUMENTS.

This list is attached to and is made an integral part of Bid submitted by: (Bidder to insert full name and address)

U.S. Coating Specialists, LLC
7410 S US Highway 1, Suite #402
Port Saint Lucie, FL 34952

For the construction of:

**NORTH AIR CARGO ROOF REHABILITATION
AUTHORITY NO. 6530 18**

**TAMPA INTERNATIONAL AIRPORT
Tampa, Florida**

The undersigned, hereinafter called "Bidder", lists below the names of the subcontractors who will perform the portions of the Work indicated. If Bidder, instead of a subcontractor, will perform the portions of the Work indicated, Bidder will insert its own name on the appropriate lines. All blank lines will be filled in with the name of the Bidder or a subcontractor. Subcontractor will meet the experience requirements of the appropriate specification section.

SUBCONTRACT

NAME, ADDRESS AND PHONE
NUMBER OF SUBCONTRACTOR

Roofing

U.S. Coating Specialists, LLC

7410 S US Highway One, Suite 402, Port Saint Lucie, FL 34952
800-779-0821

Sheet Metal

U.S. Coating Specialists, LLC



7410 S US Highway One, Suite 402, Port Saint Lucie, FL 34952
800-779-0821

Sealant

U.S. Coating Specialists, LLC

7410 S US Highway One, Suite 402, Port Saint Lucie, FL 34952
800-779-0821

The Bidder declares that it has fully investigated each subcontractor listed, has received and has in it's files evidence that each subcontractor maintains a fully equipped organization capable, technically and financially, of performing the pertinent Work, and that Bidder has performed similar installations in a satisfactory manner. The Bidder further declares that it will not change any of these designated subcontractors for Work under this Contract without Owner's written permission.

By: Anthony Flett
 Name of Bidder

(Signature*)
Title: President

* Must be same signature on Bid Form.

END OF SECTION

SECTION 00440 - BIDDER'S SELECTION OF PAYMENT METHOD

The Authority offers suppliers the option of receiving payments via ePayables or via Automated Clearing House (ACH).

A. Bidder has the option to receive payments utilizing an ePayables solution during the entire term of this Contract either by utilizing ePayables with Authority's Reverse Discount or ePayables under the Large Ticket Vendor Program. Payment will be processed by Accounts Payable using the ePayable system upon Account Payable's receipt of a Pay Application. After the payment is processed, the Pay Application will be reviewed and verified by the Authority Project Manager. Bidder retains the right to request a review of the rejected or corrected Pay Application. Any further adjustment to the Pay Application resulting from the review will be made in the next billing period. Merchant services fees will apply and are determined by Bidder's agreement with its bank or financial institution that processes credit or debit card payments on behalf of Bidder (Merchant Acquirer). The Authority is not responsible for any agreed upon terms between Bidder and Bidder's Merchant Acquirer. Bidder will receive a reverse discount of 75 basis points from Authority if Bidder does not utilize the Large Ticket Vendor program with its Merchant Acquirer. The Authority's reverse discount is whereby the Authority will give back to the Bidder .75% of the Merchant services fees to the Bidder for not utilizing the Large Ticket Vendor Program. The Authority reserves the right to suspend or discontinue the reverse discount in the event Bidder consistently overcharges Authority.

OR

B. Bidder also has the option to receive payments via Automated Clearing House (ACH). Payment will be issued within 20 days after Authority's verification and approval of a Pay Application. Authority may reject a Pay Application or correct the Pay Application when errors are found. Bidder retains the right to request a review of the rejected or corrected Pay Application. Any further adjustment to the Pay Application resulting from the review will be made in the next billing period.

Bidder may at any time during the term of this Contract elect to change its payment method to ePayables upon written notice to the Vice President of Planning and Development and the completion of Authority's ePayables application process. If the payment method is changed to ePayables, the information and process described above in Paragraph A, ePayables, will apply.

Please select one of the following electronic payment methods based on the information provided above:

1. ePayables: (Choose only one on this category)

ePayables with Authority Reverse Discount.

ePayables under the Large Ticket Vendor Program.

OR

2. ACH:

Bidder would like to receive payments via ACH.

Please provide name and contact information for Bidder's Accounts Receivable Representative that will be responsible for invoicing the Authority during the term of this Contract.

Name: Dana Simmons

Title: Executive Assistant

Office Mailing Address: 7410 S US Highway 1, Suite #402

City: Port Saint Lucie

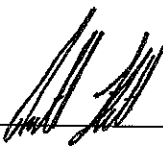
State: FL

Zip Code: 34952

Phone: 772-521-6412 Ext: _____

Fax: 772-264-3145

Email: dana@uscoatingspec.com

Signature 

Executive Assistant

Title

Dana Simmons

Printed Name

1/11/2023

Date

END OF SECTION

SECTION 00500 - AWARD OF CONTRACT AND EXECUTION OF CONTRACT BONDS

1.01 CONSIDERATION OF BIDS

- A. After the Bids are publicly opened and read, they will be compared on the basis of the summation of the products obtained by multiplying the estimated quantities shown in the Unit Bid Prices in the Bid Schedule.
1. An estimate of quantities of Work to be performed and materials to be furnished under these Specifications is given in the Bid Schedule of the Bids. It is the result of careful calculations and is believed to be correct. It is given only as a basis for comparison of Bids and the award of the Contract. The Owner does not expressly or impliedly agree that the actual quantities involved will correspond exactly therewith; nor will the Bidder plead misunderstanding or deception because of such estimates of quantities, or of the character, location, or other conditions pertaining to the Work. Payment to the Contractor will be made only for the actual quantities of Work performed or materials furnished in accordance with the Drawings and Specifications. It is understood that the quantities may be increased or decreased as hereinafter provided in SECTION 00700, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, Paragraph 7.01, without in any way invalidating the Unit Bid Prices.
- B. Until the award of a Contract is made, the Owner reserves the right to reject a Bidder's Bid if the Bid is irregular as specified in Subsection 1.12 entitled REJECTION OF BIDS of Section 00100.
- C. In addition, until the award of Contract is made, the Owner reserves the right to reject any or all Bids including but not limited to any and all Bids that are higher than the Owner approved budget or estimated project cost, waive technicalities if such waiver is in the best interest of the Owner and is in conformance with applicable State and local laws or regulations pertaining to the letting of construction contracts, advertise for new Bids, or proceed with the Work otherwise. All such actions will promote the Owner's best interests.

1.02 AWARD OF CONTRACT

- A. The award of the Contract, if it is awarded, will be to the lowest responsible Bidder whose qualifications indicate the award will be in the best interest of the Owner and whose Bid complies with all the prescribed requirements. No award will be made until the Owner has concluded such investigations as it deems necessary to establish the responsibility, qualifications and financial ability of the Bidder to do the Work in accordance with the Contract Documents to the satisfaction of the Owner within the time prescribed. The Owner reserves the right to reject the Bid of any Bidder who does not pass such investigation to the Owner's satisfaction. If the Contract is awarded, the Owner will give the successful Bidder written notice of the award within 85 calendar days (or 115 calendar days if federal funds are applicable) after the opening of the Bids. Until the final award of the Contract, the Owner reserves the right to reject any or all Bids, to waive technicalities and to advertise for new Bids, or to proceed to do the Work otherwise when the best interests of the Owner will be promoted thereby.

- B. The date of the award of the Contract will be the date that the Contract is awarded by the Owner.

1.03 CANCELLATION OF AWARD

Owner reserves the right to cancel the award without liability to the Bidder, except return of Bid security, at any time before a Contract has been fully executed by all parties and is approved by the Owner in accordance with Subsection 1.07 entitled APPROVAL OF CONTRACT of this Section 00500.

1.04 RETURN OF BID SECURITY

As soon as the Bids have been compared, the Owner may, at its discretion, return the Cashier's Checks or other collateral accompanying those Bids which, in its judgment, would not be considered in making the award. When award is made, the successful Bidder's security and that of the next low Bidder will be retained until the Contract and Bonds have been executed, after which it will be returned to the Bidders. Should the award be delayed more than 85 calendar days (or 115 calendar days if federal funds are applicable) after opening of Bids, all Bidders' security will be returned, unless such delay is from causes beyond the control of the Owner.

1.05 REQUIREMENTS OF CONTRACT BONDS

- A. A good and sufficient Common Law Performance Bond and Statutory Payment Bond in the form contained herein, each in the sum of not less than 100% of the Contract Sum, with a surety company satisfactory to the Owner and licensed to conduct business in the State of Florida, will be required of the Contractor, guaranteeing that the Contract, including the various guarantee periods thereunder, will be faithfully performed and that no later than 10 calendar days from receipt of each payment the Contractor receives from the Owner, the Contractor will make payment to and release retainage to all claimants, as defined in Section 255.05(1), Florida Statutes, supplying Contractor with labor, materials, or supplies, used directly or indirectly by the Contractor in the prosecution of the Work provided for in the Contract.
- B. The Bonds, along with appropriate Power of Attorney, will be executed and delivered to Owner, not later than seven days from the date of award of the Contract. Prior to commencing any Work under the Contract, the Contractor will record the Payment and Performance Bonds in the public records of Hillsborough County, Florida. If, at any time after the execution of the Contract and the Contract Bonds as required, Owner reasonably deems the surety or sureties of such Bond or Bonds to be unsatisfactory, or if, for any reasons, such Bond or Bonds cease to be adequate to cover the performance of the Work or prompt payment as above specified, Contractor will, at its own expense and within five days after written notice from the Owner to do so, furnish additional Bond or Bonds in such form and amount and with such surety or sureties as will be satisfactory to the Owner. In such event, no further payment to the Contractor will be deemed due under the Contract until such new or additional Bond or Bonds are furnished in a manner and form satisfactory to the Owner.

1.06 EXECUTION OF CONTRACT

The successful Bidder will sign (execute) the necessary agreements for entering into the Contract and return such signed Contract to the Owner, along with the fully executed Surety Bond or Bonds specified and along with required Insurance Certificates and Endorsements, within seven days after the date of award of the Contract. If the Contract is mailed, special handling is recommended.

1.07 APPROVAL OF CONTRACT

The Owner will review, accept and complete the execution of the Contract in accordance with local laws or ordinances, and will return the fully executed Contract to the Contractor. No Contract is binding upon the Owner until it has been executed by the Owner and delivered to the Contractor.

1.08 FAILURE TO EXECUTE CONTRACT

Failure of the successful Bidder to execute the Contract and furnish acceptable Insurance Certificates, and Endorsements, and Surety Bond or Bonds within seven days after the date of award of the Contract will be just cause for cancellation of the Contract and forfeiture of the Bid guaranty, not as a penalty, but as liquidation of damages to the Owner. The Bidder agrees that the Liquidated Damages are not a penalty and 5% of the total bid amount is reasonable. Award of the Contract may then be made to the next best responsive and responsible Bidder, or the Work re-advertised, or handled as the Owner may elect.

END OF SECTION

SECTION 00510 - CONTRACT

This **CONTRACT** is made and entered into this 2nd day of March, 2023, by and between **U.S. Coating Specialists, LLC**, hereinafter designated as the **Contractor**, and the **Hillsborough County Aviation Authority**, Tampa, Florida, hereinafter referred to as the **Owner**.

WITNESSETH:

CONTRACTOR, agrees with the Owner to the following:

1. THAT THE CONTRACTOR will provide the materials and labor specified and perform, in a first class manner, all Work in connection with the **NORTH AIR CARGO ROOF REHABILITATION, at TAMPA INTERNATIONAL AIRPORT**, in the manner and form as provided by the following Contract Documents, which are incorporated by reference and made a part hereof, as if fully contained herein:

PROJECT MANUAL entitled, **NORTH AIR CARGO ROOF REHABILITATION** and dated November 16, 2022.

DRAWINGS entitled **NORTH AIR CARGO ROOF REHABILITATION** and dated October 3, 2022.

ADDENDUM numbered 1 to 2, inclusive.

2. THAT THE CONTRACTOR will commence the Work within ten days of the date set by the Owner in a written Notice to Proceed and will achieve Substantial Completion of all Work under this Contract within **319** days after issuance of the Notice to Proceed.

3. The Owner hereby enters into this Contract with the Contractor in the Contract Sum amount of Two Million One Hundred Thirty Six Thousand Five Hundred Fifteen and Forty One Hundredth Dollars (U.S.) (\$2,136,515.40) for the Work in accordance with the Contractor's listed unit prices and lump sums specified for the various items in the bid tabulation, acknowledged by the Contractor, and included as Attachment 1. Payments will be based solely on the unit prices and lump sums listed in Attachment 1 for the Work actually performed rather than the sums for the items specified in Attachment 1 which are based upon estimated quantities. Payments will be made upon presentation of the proper certificates to the Owner and upon terms set forth in the Contract Documents.

4. It is mutually agreed between the parties hereto that time is of the essence of this Contract, and in the event the Work has not achieved Substantial Completion by the completion date(s) or within the days herein specified, it is agreed that from any money due or to become due the Contractor or its surety, the Owner may retain the sum of Two Thousand Six Hundred and No One Hundredth Dollars (\$2,600) per day, for each day thereafter, Sundays and holidays included, that the Work remains incomplete, not as a penalty but as liquidation of a reasonable portion of damages that will be incurred by the Owner by failure of the Contractor to complete the Work within the time(s) stipulated. The Parties agree that assessment of actual damages at the time this Contract is made is uncertain. The parties agree that the sum of \$2,600 per day is reasonable. The parties agree that the liquidated damages described in this paragraph are solely for delay and loss of use.

5. It is further mutually agreed between the parties hereto that if, at any time after the execution of this Contract (including the various guarantee periods thereunder) and the Bonds hereto attached, the Owner will reasonably deem the surety or sureties of such Bond or Bonds to be unsatisfactory, or if, for any reason, such Bond or Bonds cease to be adequate to cover the performance of the work or the prompt payment for said labor, materials, supplies and services, the Contractor will, at its own expense

TPA / North Air Cargo Roof Rehabilitation

within five days from the date of written notice from the Owner to do so, furnish additional Bond or Bonds in such form and amount, and with such surety or sureties, as will be satisfactory to the Owner. In such event, no further payment to the Contractor will be deemed due under this Contract until such new or additional Bond or Bonds are furnished in a manner and form satisfactory to the Owner.

6. Preference to Florida State Residents: Contractor will give preference to the employment of state residents in the performance of the Work on this Project if state residents have substantially equal qualifications to those of non-residents. The term "substantially equal qualifications" means the qualifications of two or more persons among whom the Contractor cannot make a reasonable determination that the qualifications held by one person are better suited for the position than the qualifications held by the other person or persons. If required to employ state residents, Contractor must contact the Agency for Workforce Innovation to post the Contractor's employment needs in the state's job bank system.

7. A. To the maximum extent permitted by Florida law, in addition to Contractor's obligation to provide pay for and maintain insurance as set forth elsewhere in this Contract, Contractor will indemnify and hold harmless the Owner, its members, officers, agents, employees, and volunteers from any and all liabilities, suits, claims, procedures, liens, expenses, losses, costs, royalties, fines and damages (including but not limited to claims for attorney's fees and court costs) caused in whole or in part by the:

1. presence on, use or occupancy of Owner property;
2. acts, omissions, negligence (including professional negligence and malpractice), errors, recklessness, intentional wrongful conduct, activities, or operations;
3. any breach of the terms of this Contract;
4. performance, non-performance or purported performance of this Contract;
5. violation of any law, regulation, rule, order, decree, Advisory Circular or ordinance;
6. infringement of any patent, copyright, trademark, trade dress or trade secret rights; and/or
7. contamination of the soil, groundwater, surface water, storm water, air or the environment by fuel, gas, chemicals or any other substance deemed by the Environmental Protection Agency or other regulatory agency to be an environmental contaminant

by the Contractor or the Contractor's officers, employees, agents, volunteers, subcontractors, invitees, or any other person directly or indirectly employed or utilized by the Contractor, regardless of whether the liability, suit, claim, lien, expense, loss, cost, fine or damages is caused in part by the Owner, its members, officers, agents, employees or volunteers or any other indemnified party. This indemnity obligation expressly applies, and shall be construed to include, any and all claim(s) caused in part by the negligence, acts of omissions of the Owner, its members, officers, agents, employees, and volunteers.

B. In addition to the duty to indemnify and hold harmless, Contractor will have the separate and independent duty to defend the Owner, its members, officers, agents, employees, and volunteers from all suits, claims, proceedings or actions of any nature seeking damages, equitable or injunctive relief, liens, expenses, losses, costs, royalties, fines, attorney's fees or any other relief in the event the suit, claim, or action of any nature arises in whole or in part from:

1. the presence on, use or occupancy of Owner property;
2. acts, omissions, negligence (including professional negligence and malpractice), errors, recklessness, intentional wrongful conduct, activities, or operations;
3. any breach of the terms of this Contract;
4. performance, non-performance or purported performance of this Contract;
5. violation of any law, regulation, rule, order, decree, Advisory Circular or ordinance;
6. infringement of any patent, copyright, trademark, trade dress or trade secret rights; and/or
7. contamination of the soil, groundwater, surface water, storm water, air or the environment by fuel, gas, chemicals or any other substance deemed by the Environmental Protection Agency or other regulatory agency to be an environmental contaminant

by the Contractor or the Contractor's officers, employees, agents, volunteers, subcontractors, invitees, or any other person directly or indirectly employed or utilized by the Contractor regardless of whether it is caused in part by the Owner, its members, officers, agents, employees, or volunteers or any other indemnified party. This duty to defend exists immediately upon presentation of written notice of a suit, claim or action of any nature to the Contractor by a party entitled to a defense hereunder. This defense obligation expressly applies, and shall be construed to include, any and all claim(s) caused in part by the negligence, acts or omissions of the Owner, its members, officers, agents, employees, and volunteers.

C. If the above indemnity or defense provisions or any part of the above indemnity or defense provisions are limited by Fla. Stat. § 725.06(2)-(3) or Fla. Stat. § 725.08, then with respect to the part so limited, Contractor agrees to the following: To the maximum extent permitted by Florida law, Contractor will indemnify and hold harmless the Owner, its members, officers, agents, employees, and volunteers from any and all liabilities, damages, losses, and costs, including, but not limited to, reasonable attorneys' fee, to the extent caused by the negligence, recklessness, or intentional wrongful conduct of the Contractor and persons employed or utilized by the Contractor in the performance of this Contract.

D.. If the above indemnity or defense provisions or any part of the above indemnity or defense provisions are limited by Florida Statute § 725.06 (1), or any other applicable law, then with respect to the part so limited, the monetary limitation on the extent of the indemnification shall be the greater of the (i) monetary value of this Contract, (ii) coverage amount of Commercial General Liability Insurance required under the Contract or (iii) \$1,000,000.00. Otherwise, the obligations of this Article will not be limited by the amount of any insurance required to be obtained or maintained under this Contract.

E. In addition to the requirements stated above, to the extent required by FDOT Public Transportation Grant Agreement and to the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the State of Florida, FDOT, including the FDOT's officers and employees, from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees, to the extent caused by the negligence, recklessness or intentional wrongful misconduct of the Contractor and persons employed or utilized by the Contractor in the performance of this Contract. This indemnification in this paragraph shall survive the termination of this Contract. Nothing contained in this paragraph is intended to nor shall it constitute a waiver of the State of Florida's and FDOT's sovereign immunity.

F. Contractor's obligations to defend and indemnify as described in this Contract will survive the expiration or earlier termination of this Contract until it is determined by final judgment that any suit, claim or other action against the Owner, its members, officers, agents, employees, and volunteers if fully and finally barred by the applicable statute of limitations or repose.

G. Nothing in this Contract will be construed as a waiver of any immunity from or limitation of liability the Owner, or its members, officers, agents, employees, and volunteers may have under the doctrine of sovereign immunity under common law or statute.

H. The Owner and its members, officers, agents, employees, and volunteers reserve the right, at their option, to participate in the defense of any suit, without relieving Contractor of any of its obligations under this Article.

I. If Paragraphs 7A-7H or any part of Paragraphs 7A-7H is deemed to conflict in any way with any law, the Paragraph or part of the Paragraph will be considered modified by such law to remedy the conflict.

8. THIRD PARTY BENEFICIARY CLAUSE. It is specifically agreed between the parties executing the Contract that it is not intended by any of the provisions of any part of the Contract to create in the public or any member thereof any rights as a third party beneficiary or to authorize anyone not a party to the Contract to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the Contract.

9. This Contract will be terminated in accordance with Florida Statute Section 287.135 if it is found that the Contractor submitted a false Scrutinized Company Certification as provided in Florida Statute Section 287.135(5) or has been placed on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, the Scrutinized Companies that Boycott Israel List, is engaged in a boycott of Israel, or is engaged in business operations in Cuba or Syria. The termination will be subject to the dollar amount limitations included in the respective Florida Statute.

10. CHAPTER 119, FLA. STATUTE REQUIREMENTS

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

(813) 870-8721, ADMCENTRALRECORDS@TAMPAAIRPORT.COM, HILLSBOROUGH COUNTY AVIATION AUTHORITY, P.O. BOX 22287, TAMPA FL 33622.

Contractor agrees in accordance with Florida Statute Section 119.0701 to comply with public records laws including the following:

- a. Keep and maintain public records required by the Owner in order to perform the Work contemplated by this Contract.

- b. Upon request from the Owner's custodian of public records, provide the Owner with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Fla. Stat. or as otherwise provided by law.
- c. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the Contract Term and following completion of the Contract.
- d. Upon completion of this Contract, keep and maintain public records required by the Owner to perform the Work. Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the Owner, upon request from the Owner's custodian of public records, in a format that is compatible with the information technology systems of the Owner.

The Owner maintains its records in electronic form in accordance with the State of Florida records retention schedules. As a result, the paper original version of this document (to the extent it exists) will be scanned and stored electronically as the authoritative record copy as part of the Owner's record management process. Once that occurs, the paper original version of this document will be destroyed. Notwithstanding the foregoing, to the extent the contract documents include any bonds or other security, those bonds or other security will be maintained in their original form and not destroyed.

11. Press releases or other specialized publicity documents, including the Contractor's advertising news bulletins, which are related to this Contract and are intended by the Contractor for the press, broadcasting, or television, will be drawn up in consultation with the Owner. Except as otherwise required by law or regulation, the Contractor will not release or distribute any materials or information relating to this Contract or containing the name of the Owner or any of its employees or Board Members without prior written approval by an authorized representative of the Owner. Contractor shall require all consultants, subcontractors and suppliers of any tier to comply with this paragraph.

12. Prohibited Interest

The Contractor represents that, in connection with this Contract or any property included or planned to be included in this Contract, it has not entered into a contract or arrangement with any officer, director or employee of the Owner, or any business entity of which the officer, director or employee of the officer's, director's or employee's spouse or child is an officer, partner, director, or proprietor or in which such officer, director or employee or the officer's, director's or employee's spouse or child, or any combination of them, has a material interest.

"Material Interest" means direct or indirect ownership of more than 5 percent of the total assets or capital stock of any business entity.

The Contractor represents that, in connection with this Contract or any property included or planned to be included in this Contract, it has not entered into a contract or arrangement with any person or entity who at any time during the immediately preceding two years was an officer, director or employee of the Owner.

The provisions of this subsection shall not be applicable to any agreement between the Owner and its fiscal depositories, any agreements for utility services the rates for which are fixed or controlled by the government, or any agreement between the Owner and an agency of state government.

The following provision is made a part of this Contract and will be inserted in each of the Contractor's subcontracts:

"No member, officer, or employee of the Hillsborough County Aviation Authority during their tenure or for two years thereafter will have any interest, direct or indirect, in this Contract or the proceeds thereof."

13. Nondiscrimination

A. Compliance with Nondiscrimination Requirements

During the performance of this Contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees as follows:

1. Compliance with Regulations: The Contractor (hereinafter includes subcontractors and consultants) will comply with the Title VI List of Pertinent Nondiscrimination Statutes and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this Contract.
2. Nondiscrimination: The Contractor, with regard to the work performed by it during the Contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the Contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the Contractor's obligations under this Contract and the Acts and the Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.
4. Information and Reports: The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Owner or the Federal Aviation Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of Contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the Owner or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
5. Sanctions for Noncompliance: In the event of Contractor's noncompliance with the Nondiscrimination provisions of this Contract, the Owner will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

- a. Withholding payments to the Contractor under the Contract until the Contractor complies; and/or
- b. Cancelling, terminating, or suspending the contract, in whole or in part.

6. Incorporation of Provisions: The Contractor will include the provisions of paragraphs one through five in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Owner or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in or is threatened with litigation by a subcontractor or supplier because of such direction, the Contractor may request the Owner to enter into any litigation to protect the interests of the Owner. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

B. Title VI List of Pertinent Nondiscrimination Authorities During the performance of this Contract, the Contractor, for itself, its assignees, and successors in interest agrees to comply with the following nondiscrimination statutes and authorities; including but not limited to:

1. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
2. 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);
3. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
4. Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR part 27;
5. The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
6. Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
7. The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);

8. Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;

9. The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);

10. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

11. Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, Contractor must take reasonable steps to ensure that LEP persons have meaningful access to Contractor’s programs (70 Fed. Reg. at 74087 to 74100); and

12. Title IX of the Education Amendments of 1972, as amended, which prohibits Contractor from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

C. Duration: Contractor must comply with this section during the period during which Federal financial assistance is extended to Owner, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case this provision obligates the Contractor for the longer of the following periods:

1. So long as the airport is used as an airport, or for another purpose involving the provision of similar services or benefits; or
2. So long as the Owner retains ownership or possession of the property.

REMAINDER OF PAGE LEFT BLANK

IN WITNESS WHEREOF, the parties hereto have set their hands and corporate seals by their proper officers, duly authorized to do so;

By the Contractor this _____ day of _____, 2023.

ATTEST:

U.S. COATING SPECIALISTS, LLC

By: _____

Title: _____

Print Name

Print Address

Signed, sealed, and delivered
in the presence of:

Witness

Print Name

Witness

Print Name

Notary for U.S. Coating Specialists, LLC

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this ____ day of _____, 2023, by _____ as
(Name of person)

_____, for _____.
(type of authority) (name of party on behalf of whom contract was executed)

Signature of Notary

Print, Type, or Stamp Commissioned Name of Notary

Personally Known OR Produced Identification
Type of Identification Produced

By the Owner this _____ day of _____, 2023.

HILLSBOROUGH COUNTY AVIATION AUTHORITY

(Affix Corporate Seal)

By: _____
Gary Harrod, Chairman

ATTEST:

Jane Castor, Secretary

Signed, sealed, and delivered
in the presence of:

Witness

Print Name

Witness

Print Name

**LEGAL FORM APPROVED AS TO FORM FOR
LEGAL SUFFICIENCY:**

By: _____
Michael T. Kamprath, Assistant General Counsel

Notary for Hillsborough County Aviation Authority

**STATE OF FLORIDA
COUNTY OF HILLSBOROUGH**

The foregoing instrument was acknowledged before me by means of physical presence or online authorization, this ____ day of _____, 2023, by Gary Harrod, in the capacity of Chairman, and by Jane Castor in the capacity of Secretary, for Hillsborough County Aviation Authority, a public body corporate under the laws of the State of Florida, on its behalf.

Signature of Notary

Print, Type, or Stamp Commissioned Name of Notary

Personally Known OR Produced Identification
Type of Identification Produced

END OF SECTION

NORTH AIR CARGO ROOF REHABILITATION

HCAA Project No. 6530 18

Tampa International Airport

Tampa, Florida

Hillsborough County Aviation Authority

Bid Item Number	Item Description and Bid Price Per Unit <i>(In Words)</i>	Bid Price Per Unit <i>(In Numbers)</i>	Est Qty	Unit	Total Amount Per Item <i>Unit Price Times Est Qty</i>
1.1	Project Mobilization/Demobilization and Phasing				
	Two Hundred Thirteen Thousand Six Hundred Fifty One	Dollars	Fifty Four	Cents	\$ 213,651.54
	<i>Bid Price Per Unit In Words</i>				<i>In Numbers</i>
			1	LS	\$ 213,651.54
43.1	Clean and Paint Steel Roof Decking				
	Two	Dollars	Zero	Cents	\$ 2.00
	<i>Bid Price Per Unit In Words</i>				<i>In Numbers</i>
			6,500	SF	\$ 13,000.00
43.2	Overlay Pitted Steel Roof Decking				
	Zero	Dollars	Ninety Six	Cents	\$ 0.96
	<i>Bid Price Per Unit In Words</i>				<i>In Numbers</i>
			1,300	SF	\$ 1,248.00
43.3	Removal and Replacement of Steel Roof Decking				
	Nine	Dollars	Twenty Five	Cents	\$ 9.25
	<i>Bid Price Per Unit In Words</i>				<i>In Numbers</i>
			700	SF	\$ 6,475.00
43.4	Additional Fasteners in Steel Roof Deck				
	Five Hundred	Dollars	Zero	Cents	\$ 500.00
	<i>Bid Price Per Unit In Words</i>				<i>In Numbers</i>
			1	LS	\$ 500.00
96.1	Roofing Removal and Replacement with Single-Ply Roof System Including Sheet Metal and Lightning Protection				
	One Million Eight Hundred Thousand One Hundred Forty	Dollars	Eighty Six	Cents	\$ 1,800,140.86
	<i>Bid Price Per Unit In Words</i>				<i>In Numbers</i>
			1	LS	\$ 1,800,140.86
96.2	Replacement Wood Blocking				
	One	Dollars	Eighty Seven	Cents	\$ 1.875
	<i>Bid Price Per Unit In Words</i>				<i>In Numbers</i>
			800	LF	\$ 1,500.00

NORTH AIR CARGO ROOF REHABILITATION

HCAA Project No. 6530 18

**Tampa International Airport
Tampa, Florida**

Hillsborough County Aviation Authority

Bid Item Number	Item Description and Bid Price Per Unit <i>(In Words)</i>	Bid Price Per Unit <i>(In Numbers)</i>	Est Qty	Unit	Total Amount Per Item <i>Unit Price Times Est Qty</i>
	Sub-total for all Bid Items not including Owner's Allowance				\$ <u>2,036,515</u>
	Owner's Allowance				
	One Hundred Thousand <i>Dollars</i> Zero <i>Cents</i>	\$ 100,000.00	1	Allow	\$ 100,000.00
	<i>Bid Price Per Unit In Words</i>	<i>In Numbers</i>			

NOTE: Basis of payment will be in accordance with the technical specifications applicable to each Bid Item Number.

Bid Tabulation Total Amount \$2,136,515.40

W/MBE Participation Commitment		
	A	B
Total W/MBE Commitment Amount from Validated Letter of Inte	\$0.00	
Total Bid Amount		\$2,136,515.40
W/MBE Commitment Percentage (equals A/B)	0.0%	

The undersigned accepts as true and correct the Total Bid Amount and W/MBE Commitment Percentage calculation contained in this Bid Tabulation.

Name of Contractor: _____

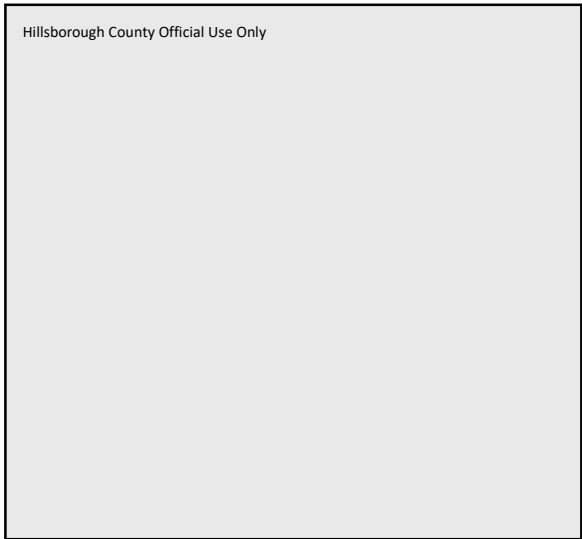
Signature of Contractor: _____

Title: _____

Date: _____

NOTE:
The W/MBE Commitment percentage is established in accordance with the Owner's W/MBE Policy as stated in Section 00100 INSTRUCTIONS TO BIDDERS and supported by the Letter(s) of Intent submitted by the Contractor with the bid. The Total W/MBE Commitment Percentage may only be modified by Change Order.

SECTION 00610
COMMON LAW PERFORMANCE BOND



BOND NO. _____

STATE OF _____

COUNTY OF _____

BY THIS BOND, U.S. Coating Specialists, LLC, whose principal business address is _____, business phone number is _____ as Principal, hereinafter "Contractor", and _____, whose principal business address is _____, business phone number is _____ as Surety, hereinafter "Surety", are held and firmly bound to the Hillsborough County Aviation Authority, whose principal address is P.O. Box 22287, Tampa, Florida 33622, business phone number is (813) 870-8700, as Obligee, hereinafter "Owner", in the amount of Two Million One Hundred Thirty Six Thousand Five Hundred Fifteen and Forty One Hundredth Dollars (U.S.) (\$2,136,515.40) for the payment of which Contractor and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, as provided herein.

WHEREAS, Contractor has by written Contract dated March 2, 2023 entered into an agreement with Owner for **AUTHORITY PROJECT NUMBER 6530 18, NORTH AIR CARGO ROOF REHABILITATION at TAMPA INTERNATIONAL AIRPORT** to perform in accordance with the Contract, and the Contract Documents incorporated by reference in the Contract or otherwise. The Contract is incorporated by reference into this Performance Bond, hereinafter "Bond".

It is the condition of this Bond that if the Contractor performs its Contract obligations (the "Work"), then the Surety's obligations under this Bond are null and void; otherwise the Surety's obligations will remain in full force and effect.

The Contractor will perform, carry out and abide by all the terms, conditions and provisions of the Contract and complete the Work in accordance with its terms. If the Contractor fails to perform its Contract obligations, it will be the duty of the Surety to promptly assume responsibility for performance of the Contract including but not limited to completion of the Work. The Surety must and does hereby agree to indemnify the Owner and hold it harmless of, from and against any and all liability, loss, cost, damage, expense, attorney fees, including appellate proceedings, engineering and architectural fees or other professional services which the Owner may incur or which may accrue or be imposed upon the Owner by reason of any negligence, default, breach or misconduct on the part of the Contractor, Contractor's agents, servants, subcontractors or employees, in, about, or on account of the Work or performance of the Contract. Surety will be required to repay and reimburse the Owner, promptly upon demand, all sums of money including, but not limited to, attorney, architect, engineer and any other professional fees reasonably paid out or expended by the Owner on account of the failure or refusal of the Contractor to carry out, perform, or comply with any of the terms, conditions or provisions of the Contract including, but not limited to, the guarantee of the Work and materials furnished under the Contract for the time specified in the Contract.

The Surety hereby stipulates and agrees that any modification, omission, or addition, in or to the terms of the Contract, including the Contract Documents, will not affect the obligation of the Surety under this Bond.

Signed and sealed this _____ day of _____, 20__.

CONTRACTOR MUST INDICATE WHETHER CORPORATION, PARTNERSHIP, COMPANY, (OR INDIVIDUAL). THE PERSON SIGNING FOR THE CONTRACTOR WILL SIGN HIS/HER OWN NAME AND SIGN CORPORATE TITLE. WHEN THE PERSON SIGNING FOR A CORPORATION IS OTHER THAN THE PRESIDENT OR VICE PRESIDENT, HE/SHE MUST FURNISH A CORPORATE RESOLUTION SHOWING HIS/HER AUTHORITY TO BIND THE CORPORATION.

(Affix Contractor's Corporate Seal)

Name of Contractor _____ By: _____ (Signature)
Type Name and Title Below: _____ Address: _____
_____ Telephone Number Fax Number

(Affix Surety's Corporate Seal)

Name of Surety _____
By: _____ Attorney in Fact for Surety (Signature) By: _____ Florida Licensed Agent (Signature)
Type name of Attorney in Fact: _____ Type name of Fla. Licensed Agent: _____
Attorney in Fact Address: _____ License Number _____
Attorney in Fact Address: _____ Agent Address: _____
_____ Telephone Number Fax Number Telephone Number Fax Number

(ATTACH "SURETY'S BOND AFFIDAVIT" ON COPY OF FORM BOUND IN THESE SPECIFICATIONS).
(ATTACH "POWER OF ATTORNEY" FOR SURETY COMPANY REPRESENTATIVE).

Hillsborough County Aviation Authority

THE FOREGOING BOND IS HEREBY APPROVED FOR LEGAL SUFFICIENCY:

By: _____ By: _____

Michael Kamprath, Assistant General Counsel

THIS BOND MUST BE RECORDED IN THE PUBLIC RECORDS OF HILLSBOROUGH COUNTY FLORIDA PRIOR TO COMMENCING ANY WORK UNDER THE CONTRACT.

SECTION 00620
STATUTORY PAYMENT BOND

BOND NO. _____

STATE OF _____

COUNTY OF _____

BY THIS BOND, U.S. Coating Specialists, LLC, whose principal business address is _____, business phone number is _____ as Principal, hereinafter "Contractor", and _____, whose principal business address is _____, business phone number is _____ as Surety, hereinafter "Surety", are held and firmly bound to the Hillsborough County Aviation Authority, whose principal business address is P.O. Box 22287, Tampa, Florida 33622, business phone number is (813) 870-8700, as Obligee, hereinafter "Owner", in the amount of Two Million One Hundred Thirty Six Thousand Five Hundred Fifteen and Forty One Hundredth Dollars (U.S.) (\$2,136,515.40) for the payment of which Contractor and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, as provided herein.

THE CONDITION OF THIS BOND is that if Contractor:

1. Performs the Contract dated March 2, 2023, between Contractor and Owner for **AUTHORITY PROJECT NUMBER 6530 18, NORTH AIR CARGO ROOF REHABILITATION at TAMPA INTERNATIONAL AIRPORT**, the Contract being made a part of this Bond by reference, at the times and in the manner prescribed in the Contract; and
2. Promptly makes payments to all claimants, as defined in Section 255.05(1), Florida Statutes, supplying Contractor with labor, materials, or supplies, used directly or indirectly by Contractor in the prosecution of the work provided for in the Contract; and
3. Pays Owner all losses, damages, expenses, costs, and attorney's fees, including appellate proceedings, that Owner sustains because of a default by Contractor under the Contract; and
4. Performs the guarantee of all work and materials furnished under the Contract for the time specified in the Contract, then this Bond is void; otherwise it remains in full force.

Any action instituted by claimant under this Bond for payment must be in accordance with the notice and time limitation provisions in Sections 255.05(2) and (10), Florida Statutes.

SECTION 00620
STATUTORY PAYMENT BOND

Any changes in or under the Contract Documents and compliance or non-compliance with any formalities connected with the Contract or the changes does not affect Surety's obligation under this Bond.

Signed and sealed this _____ day of _____, 201__.

CONTRACTOR MUST INDICATE WHETHER CORPORATION, PARTNERSHIP, COMPANY, (OR INDIVIDUAL). THE PERSON SIGNING FOR THE CONTRACTOR WILL SIGN HIS/HER OWN NAME AND SIGN CORPORATE TITLE. WHEN THE PERSON SIGNING FOR A CORPORATION IS OTHER THAN THE PRESIDENT OR VICE PRESIDENT, HE/SHE MUST FURNISH A CORPORATE RESOLUTION SHOWING HIS/HER AUTHORITY TO BIND THE CORPORATION.

(Affix Contractor's Corporate Seal)

_____	By: _____
Name of Contractor	(Signature)
Type Name and Title Below: _____	Address: _____
_____	_____
_____	_____
Telephone Number	Fax Number

(Affix Surety's Corporate Seal)

_____	_____
Name of Surety	
By: _____	By: _____
Attorney in Fact for Surety (Signature)	Florida Licensed Agent (Signature)
Type name of Attorney in Fact: _____	Type name of Fla. Licensed Agent: _____
Attorney in Fact Address: _____	License Number: _____
_____	Agent Address: _____
_____	_____
Telephone Number	Fax Number
_____	_____
Telephone Number	Fax Number

(ATTACH "SURETY'S BOND AFFIDAVIT" ON COPY OF FORM BOUND IN THESE SPECIFICATIONS).
(ATTACH "POWER OF ATTORNEY" FOR SURETY COMPANY REPRESENTATIVE).

Hillsborough County Aviation Authority

By: _____

THE FOREGOING BOND IS HEREBY APPROVED FOR LEGAL SUFFICIENCY:

By: _____
Michael Kamprath, Assistant General Counsel

THIS BOND MUST BE RECORDED IN THE PUBLIC RECORDS OF HILLSBOROUGH COUNTY FLORIDA PRIOR TO COMMENCING ANY WORK UNDER THE CONTRACT.

SECTION 00620
STATUTORY PAYMENT BOND

STATE OF _____
COUNTY OF _____

BEFORE ME, the undersigned authority, personally appeared _____,
who being duly sworn, deposes and says that they are a duly authorized Florida agent, properly licensed
under the laws of the State of Florida, to represent _____,
a company authorized to make corporate surety bonds under the laws of the State of Florida (the "Surety").

Said _____ further certifies that as agent for the said Surety,
they have countersigned the attached Bond as the Florida Licensed Agent in the sum of Two Million One
Hundred Thirty Six Thousand Five Hundred Fifteen and Forty One Hundredth Dollars (U.S.) (\$2,136,515.40) on
behalf of _____ to the **HILLSBOROUGH COUNTY AVIATION AUTHORITY** covering **the
PROJECT NUMBER 6530 18, NORTH AIR CARGO ROOF REHABILITATION at TAMPA INTERNATIONAL
AIRPORT.**

Said _____ further certifies that the premium on the said Bonds is
_____, which will be paid in full directly to
them as agent and included in their regular accounts to the said Surety, and that they will receive their
regular commission as agent for the execution of said Bond and that their commission will not be divided
with anyone except to _____, who is a duly authorized insurance agent properly
licensed under the laws of the State of Florida.

SIGNED:

By: _____
Florida Licensed Insurance Agent (Signature)

Type Name or Agent Below:

Address of Agent: _____

Telephone Number: _____

FAX Number: _____

Florida License Number: _____

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of physical presence or online
notarization, this ____ day of _____, 2023, by _____ as
(Name of person)
_____, for _____.
(type of authority) (name of party on behalf of whom contract was executed)

Signature of Notary

Print, Type, or Stamp Commissioned Name of Notary

Personally Known OR Produced Identification
Type of Identification Produced

TPA / North Air Cargo Roof Rehabilitation

SECTION 00650 - INSURANCE REQUIREMENTS

PART 1 - GENERAL CONDITIONS

1.01 INSURANCE COVERAGE AND LIMITS

A. Contractor agrees to provide its full limits for every policy specified herein, without restriction or reduction, and to the extent required by Florida Department of Transportation Public Transportation Grant Agreement, shall require the same of all of its contractors, subcontractors, suppliers, consultants, and subconsultants at each tier. To the extent that there is any exclusion, deficiency, reduction, or gap in a policy, which makes the insurance more restrictive than the coverage required, the Contractor agrees to remain responsible and obligated to make the Owner whole as if the Contractor and all of its contractors, subcontractors, suppliers, consultants, and subconsultants at each tier fully met the insurance requirements of the contract. Every policy shall be maintained without interruption or amendment throughout the life of this Contract, including but not limited to any warranty or limitation periods, and for any period of extension described herein. In the event the Contractor becomes in default of any requirements the Owner reserves the right to take whatever actions deemed necessary to protect its interests. The Contractor shall require every policy, other than Workers' Compensation, Employer's Liability and Professional Liability, to be endorsed to include the Owner, members of the Owner's governing body, and the Owner's officers, volunteers, agents, and its employees as additional insureds. To the extent required by Florida Department of Transportation Public Transportation Grant Agreement, Contractor shall also ensure that the Florida Department of Transportation is added as an additional insured on the Commercial General Liability policy of the Contractor. There shall be no language in any policy, endorsement, or exclusion that reduces or limits recovery to any amount less than the full policy limits. The Contractor will submit evidence that it, and to the extent required by the Florida Department of Transportation Public Grant Agreement, all subcontractors, suppliers, consultants, and subconsultants at each tier has complied with this provision to the Owner before any work or service commences under this contract. Such evidence shall describe the full policy limits along with any deductible, retentions, attachment point, and any deviation from a fully insured program.

1. Workers' Compensation/Employer's Liability:

The Contractor shall not allow its coverage, or that of any of its contractors, subcontractors, suppliers, consultants, or subconsultants at each tier, to drop below or become encumbered below the following minimum limits of insurance:

Part One:	"Statutory"
Part Two:	
Each Accident	\$1,000,000
Disease - Policy Limit	\$1,000,000
Disease - Each Employee	\$1,000,000

It is the responsibility of the Contractor to ensure that all entities and person(s) working for or behalf of itself or any contractor, subcontractor, supplier, subconsultant, independent contractor, sole proprietorship, partner, "leased employee", person obtained through a professional employer organization ("PEO's"), operator, and any personnel obtained under an agreement, including

equipment rental agreements have Workers' Compensation Insurance in accordance with Florida's Workers' Compensation law.

2. Commercial General Liability:

The Contractor will maintain and ensure that all contractors, subcontractors, suppliers, consultants, and subconsultants at each tier has Commercial General Liability insurance providing continuous coverage for all liability resulting out of, or in connection with, any ongoing operations performed by, including the use or occupancy of Owner premises, or on behalf of the Contractor under this Contract. The insurance required under this contract shall be the full policy limits without reduction or limitation.

The limits of coverage required shall apply fully to the work or operations performed under this Contract and may not be shared with or diminished by claims unrelated to this Contract. The coverage cannot contain any deductible, retention or self-insurance without prior approval of the Owner and must clearly identify any such deductible, retention or other than a fully insured plan. Any deductible, retention, or self-insurance will be the responsibility of and paid by the First Named Insured and not by the Owner. To the extent required by the Florida Department of Transportation Public Transportation Grant Agreement, the Commercial General Liability insurance of Contractor may not contain or be subject to any self-insured retentions.

Such coverage shall be primary as to any other available insurance and shall not be more restrictive than the coverage afforded to the Named Insured. It is to be written on an "occurrence" basis on a form no more restrictive than ISO Form CG 00 01 10 01 and shall include Products/Completed Operations coverage. Additional insured coverage shall be provided on a form no more restrictive than ISO Form CG 20 10 10 01 and CG 20 37 10 01. The policy or policies shall not include a Contractual Liability Limitation (ISO CG 21 39), a Limitation of Coverage to Designated Premises or Project (CG 21 44), or any endorsement that similarly restricts or limits coverage to the Owner. The Contractor shall not allow its coverage to drop below or become encumbered below the following minimum limits of insurance:

	Contract Specific
General Aggregate	\$10,000,000
Each Occurrence	\$10,000,000
Personal and Advertising Injury Each Occurrence	\$10,000,000
Products/Completed Operations Aggregate	\$10,000,000

To the extent required by Florida Department of Transportation Public Transportation Grant Agreement, Contractor shall ensure that all of its contractors, subcontractors, suppliers, consultants, or subconsultants at each tier procure and maintain Commercial Liability Insurance with the following minimum limits of insurance:

General Aggregate	\$5,000,000
Each Occurrence	\$1,000,000

Products and Completed operations coverage will be maintained for a period of three (3) years from the date of termination of this Contract.

3. Business Auto Liability:

The Contractor agrees to provide its full policy limits for commercial auto coverage, without restriction or reduction, on all owned, hired and non-owned vehicles. Coverage shall be provided on a form no more restrictive than ISO Form CA 00 01. The Contractor shall not allow its coverage to drop below or become encumbered below the following minimum limits of insurance:

Each Occurrence – Bodily Injury and Property Damage Combined	\$10,000,000
--	--------------

4. Builders Risk Coverage:

Not Used.

5. Environmental Impairment (Pollution) Liability:

Not Used.

Utility and Railroad Protective Liability

When work performed under this Contract is on or in the vicinity of utility-owned property or facilities the utility shall also be listed as an additional insured along with the Owner and State of Florida, Department of Transportation in the manner as described herein.

If the work performed is on or in the vicinity of a railroad right-of-way, including any encroachments thereon from such work or operations, the entities and persons involved shall require, procure, and maintain Railroad Protective Liability Coverage. Such coverage shall be no more restrictive than that provided by the latest occurrence form edition of the Railroad Protective Liability Coverage (ISO Form CG 00 35) as filed for use in the State of Florida.

Contractor agrees to provide its full policy limits for any Utility or Railroad, without restriction or reduction, and shall require the same of all of its contractors, subcontractors, consultants, and subconsultants at each tier. The Contractor shall not allow its coverage or that of any of its contractors, subcontractors, consultants, or subconsultants at each tier required to have this coverage to drop below or become encumbered below \$2,000,000 combined single limit for bodily injury and/or property damage for each occurrence or have an annual aggregate of less than a \$6,000,000, inclusive of amounts provided by an umbrella or excess policy.

The coverage shall include the railroad and utility along with the Owner and State of Florida, Department of Transportation as additional insureds in the manner as described herein.

CONTRACTUAL INSURANCE TERMS AND CONDITIONS

This Section incorporates the Owner's Standard Procedure S250.06 and establishes the insurance terms and conditions associated with contractual insurance requirements. This Section is applicable to all Contractors with Owner contracts, and to the extent required by the Florida Department of Transportation Public Transportation Grant Agreement, includes every contractor, subcontractor, consultant, and subconsultant at each tier. Unless otherwise provided herein, any exceptions to the following conditions or changes to required coverages or coverage limits must have prior written approval from the Owner.

INSURANCE COVERAGE:

A. Procurement of Coverage:

With respect to each of the required coverages, the Contractor will, at the Contractor's expense, procure, maintain and keep in force the types and amounts of insurance conforming to the minimum requirements set forth in the applicable contract. In addition to the extent required by Florida Department of Transportation Public Transportation Grant Agreement, the Contractor shall further require that all contractors, subcontractors, suppliers, consultants, and sub-consultants at each tier satisfy and meet all the requirements of the applicable Grant Agreement, including the terms and conditions of this Standard Procedure. Coverage will be provided by insurance companies eligible to do business in the State of Florida and having an AM Best rating of A- or better and a financial size category of VII or better. Utilization of non-rated companies, companies with AM Best ratings lower than A-, or companies with a financial size category lower than VII must be submitted by the company to the Owner Director of Risk Management for approval prior to use. The Owner retains the right to approve or disapprove the use of any insurer, policy, risk pooling or self-insurance program.

B. Term of Coverage:

Except as otherwise specified in the contract, the insurance will commence on or prior to the effective date of the contract and will be maintained in force throughout the duration of the contract, including but not limited to any warranty or limitation periods and for any period of extended coverage required in the contract. If a policy is written on a claims-made form, the retroactive date must be shown and this date must be before the earlier of the date of the execution of the contract or the beginning of contract work, and the coverage must respond to all claims reported within three years following the period for which coverage is required unless a longer period of time is otherwise stated in the contract.

C. Reduction of Aggregate Limits:

Each insurance policy will be specifically endorsed to require the insurer to provide written notice to the Owner at least 30 days (or 10 days prior notice for non-payment of premium) prior to any cancellation, non-renewal or adverse change, initiated by the insurer, and applicable to any policy or coverage described in the contract or in this Standard Procedure. The endorsement will specify that such notice will be sent to:

Hillsborough County Aviation Authority
Attn.: Chief Executive Officer
Tampa International Airport
Post Office Box 22287
Tampa, Florida 33622

Additionally, to the extent required by Florida Department of Transportation Public Transportation Grant Agreement, the workers' compensation, commercial general liability and railroad protective insurance of every contractor, subcontractor, consultant, and sub-consultant at each tier shall be specifically endorsed to require the insurer to provide the Florida Department of Transportation notice within 10 days of any cancellation, notice of cancellation, lapse, renewal, or proposed change to any policy or coverage described in the contract or this Standard Procedure.

D. No waiver by approval/disapproval:

The Owner accepts no responsibility for determining whether the company or any contractor, subcontractor, consultant, or sub-consultant at each tier is in full compliance with the insurance coverage required by the contract. The Owner's approval or failure to disapprove any policy, endorsement coverage, or Certificate of Insurance does not relieve or excuse the company of any obligation to procure and maintain the insurance required in the contract or in this Standard Procedure, nor does it serve as a waiver of any rights or defenses the Owner may have.

E. Future Modifications – Changes in Circumstances:

1. Changes in Coverage and Required Limits of Insurance

The coverages and minimum limits of insurance required by the contract are based on circumstances in effect at the inception of the contract. If, in the opinion of the Owner, circumstances merit a change in such coverage or minimum limits of insurance required by the contract, the Owner may change the coverage and the minimum limits of insurance required, and the Contractor will, within 60 days of receipt of written notice of a change in the coverage and/or the minimum limits required, comply with such change and provide evidence of such compliance in the manner required by the contract. Provided, however, that no change in the coverages or minimum limits of insurance required will be made by the Owner until at least two years after inception of the contract. Subsequent changes in the coverage or minimum limits of insurance required will not be made by the Owner until at least two years after any prior change by the Owner unless extreme conditions warrant such change and are agreeable to both parties. To the extent required by Florida Department of Transportation Public Transportation Grant Agreement, any such change or modification in coverage or limits shall also apply to the contractors, subcontractors, suppliers, consultants, and sub-consultants at each tier.

If, in the opinion of the Owner, compliance with the insurance requirements is not commercially practicable for the Contractor, contractors, subcontractors, suppliers, consultants or subconsultants at any tier, at the written request of the Contractor, the Owner may, at its sole discretion and subject to any conditions it deems appropriate, relax or temporarily suspend, in whole or in part, the insurance requirements which would otherwise apply to the Contractor, contractors, subcontractors, suppliers, consultants, and sub-consultants at any tier. Any such modification will be subject to the prior written approval of the Owner's General Counsel and Executive Vice President of Legal Affairs or designee, and subject to the conditions of such approval.

F. Proof of Insurance – Insurance Certificate:

1. Prior to Work, Use or Occupancy of Owner's Premises

The Contractor and, to the extent required by Florida Department of Transportation Public Transportation Grant Agreement, the Contractor's contractors, subcontractors, suppliers, consultants, and sub-consultants at each tier will not commence work, or use or occupy Owner's premises in

connection with the contract until the required insurance is in force, preliminary evidence of insurance acceptable to the Owner has been provided to the Owner, and the Owner has granted permission to the company to commence work or use or occupy the premises in connection with the contract.

2. Proof of Insurance Coverage

As preliminary evidence of compliance with the insurance required by the contract, the Contractor will furnish the Owner with an ACORD Certificate of Liability Insurance (Certificate) reflecting the required coverage described in the contract and this Standard Procedure.

The Certificate must:

- a. Be signed by an authorized representative of the insurer. Contractor will furnish the Owner with endorsements effecting coverage required by the contract. The endorsements are to be signed by a person authorized by insurer to bind the coverage on the insurer's behalf;
- b. State that: "Hillsborough County Aviation Authority, members of the Authority's governing body and the Authority's officers, volunteers, agents, and its employees are additional insureds for all policies described above other than workers' compensation employer's liability and professional liability";
- c. To the extent required by Florida Department of Transportation Public Transportation Grant Agreement, state that the Florida Department of Transportation is an additional insured for commercial general liability;
- d. The insurers for all policies shown on the Certificate have waived their subrogation rights against the Authority;
- e. Indicate that the Certificate has been issued in connection with the contract;
- f. Indicate the amount of any deductible or self-insured retention applicable to all coverages;
- g. State that the deductible or self-insured retention is the responsibility of the Contractor; and
- h. Identify the name and address of the Certificate holder as:

Hillsborough County Aviation Authority
Attn.: Chief Executive Officer
Tampa International Airport
Post Office Box 22287
Tampa, Florida 33622;

If requested by the Owner, the Contractor will, within 15 days after receipt of written request from the Owner, provide the Owner, or make available for review, a certified complete copy of the policies of insurance. The Contractor may redact those portions of the insurance policies that are not relevant to the coverage required by the contract. The Contractor will provide the Owner with renewal or replacement evidence of insurance, acceptable to the Owner, prior to expiration or termination of such insurance.

G. Deductibles, Self-Insurance, Alternative Risk or Insurance Programs:

1. All deductibles, as well as all self-insured retentions and any alternative risk or insurance programs (including, but not limited to, the use of captives, trusts, pooled programs, risk retention groups, or investment-linked insurance products), must be approved by the

Owner's General Counsel and Executive Vice President of Legal Affairs or designee. The Contractor agrees to provide all documentation necessary for the Owner to review the deductible, self-insurance or alternative risk or insurance program.

2. The Contractor will pay on behalf of the Owner, members of the Owner's governing body, the Owner's officers, volunteers, agents and its employees and to the extent required by the Florida Department of Transportation Grant Agreement, any deductible, self-insured retention (SIR), or difference from a fully insured program which, with respect to the required insurance, is applicable to any claim by or against the Owner, or any member of the Owner's governing body, or any officer or employee of the Owner.
3. The contract by the Owner to allow the use of a deductible, self-insurance or alternative risk or insurance program will be subject to periodic review by the Director of Risk Management. If, at any time, the Owner deems that the continued use of a deductible, self-insurance, or alternative risk or insurance program by the Contractor should not be permitted, the Owner may, upon 60 days' written notice to the company, require the Contractor to replace or modify the deductible, self-insurance, or alternative risk or insurance program in a manner satisfactory to the Owner.
4. Any deductible amount, self-insurance, or alternative risk or insurance program's retention will be included and clearly described on the Certificate prior to any approval by the Owner. This is to include fully insured programs as to a zero deductible per the policy. Owner reserves the right to deny any Certificate not in compliance with this requirement.
5. To the extent required by Florida Department of Transportation Public Transportation Grant Agreement, the commercial general liability may not be subject to a self-insured retention. Subject to approval by the Owner under sub-paragraphs 1-4 above, the commercial general liability may contain a deductible, provided that such deductible shall be paid by the named insured.

H. Contractor's Insurance Primary:

The insurance required by the contract will apply on a primary and non-contributory basis. Any insurance or self-insurance maintained by the Owner will be excess and will not contribute to the insurance provided by or on behalf of the Contractor.

To the extent required by Florida Department of Transportation Public Transportation Grant Agreement, the coverage afforded to the Florida Department of Transportation as an additional insured under the Commercial General Liability policy shall be primary coverage.

I. Incident Notification:

In accordance with the requirements of Standard Procedure S250.02, the Contractor will promptly notify the Airport Operations Center (AOC) of all incidents involving bodily injury or property damage occurring on Authority-owned property, tenant owned property or third party property.

J. Customer Claims, Issues, or Complaints:

In addition to complying with all terms outlined in Standard Procedure S250.02, all customer claims, issues, or complaints involving property damage or bodily injury related to the Contractor will be promptly handled, addressed and resolved by the Contractor.

The Contractor will track all customer claims, issues, or complaints involving property damage or bodily injury and their status on a Claims Log available for review, as needed, by Risk Management. The Claims Log should include a detailed report of the incident along with the response and/or resolution. Risk Management has the option to monitor all incidents, claims, issues or complaints where the Owner could be held liable for injury or damages.

K. Applicable Law:

With respect to any contract entered into by the Owner with a value exceeding \$10,000,000, if any required policy or program is: (i) issued to a policyholder outside of Florida or (ii) contains a “choice of law” or similar provision stating that the law of any state other than Florida shall govern disputes concerning the policy, then such policy or program must be endorsed so that Florida law (including but not limited to Part II of Chapter 627 of the Florida Statutes) will govern any and all disputes concerning the policy or program in connection with claims arising out of work performed pursuant to the Contract. The Contractor will ensure that all contractors, subcontractors, suppliers, consultants, and subconsultants at each tier are contractually bound and remain in compliance with this provision.

L. Waiver of Subrogation:

The Contractor, for itself and on behalf of its insurers, to the fullest extent permitted by law without voiding the insurance required by the Contract, waives all rights against the Owner, members of the Owner’s governing body and the Owner’s officers, volunteers, agents and its employees, as well as the State of Florida, Department of Transportation, including the Department’s officers and its employees for damages or loss to the extent covered and paid for by any insurance maintained by the Contractor. The Contractor shall require all contractors, subcontractors, suppliers, consultants and subconsultants at each tier for themselves and their insurers, to the fullest extent permitted by law without voiding the insurance required by the Contract, to waive all rights against the Owner, members of the Owner’s governing body and the Owner’s officers, volunteers, agents and its employees, as well as the State of Florida, Department of Transportation, including the Department’s officers and its employees for damages or loss to the extent covered and paid for by any insurance maintained by the Contractor to the extent covered and paid for by any insurance maintained by the Contractor’s contractors, subcontractors, suppliers, consultants and subconsultants at each tier. The Contractor shall further require that all contractors, subcontractors, suppliers, consultants, and subconsultants at each tier include the following in every contract and on each policy the following:

“Hillsborough County Aviation Authority, members of the Authority’s governing body and the Authority’s officers, volunteers, agents, and its employees, as well as the State of Florida, Department of Transportation, including the Department’s officers and its employees are additional insureds for the coverages required by all policies as described above other than workers compensation and professional liability.”

M. Contractor’s Failure to Comply with Insurance Requirements:

1. Owner's Right to Procure Replacement Insurance

If, after the inception of this Contract, the Contractor or any of its contractors, subcontractors, suppliers, consultants, or subconsultants fails to fully comply with the insurance requirements of the Contract, in addition to and not in lieu of any other remedy available to the Owner provided by the Contract, the Owner may, at its sole discretion, procure and maintain on behalf of the Contractor, insurance which provides, in whole or in part, the required insurance coverage.

2. Replacement Coverage at Sole Expense of Contractor

The entire cost of any insurance procured by the Owner pursuant to this Attachment will be paid by the Contractor. At the option of the Owner, the Contractor will either directly pay the entire cost of the insurance or immediately reimburse the Owner for any costs incurred by the Owner, including all premiums, fees, taxes, and 15% for the cost of administration.

a. Contractor to Remain Fully Liable

The Contractor agrees to remain fully liable for full compliance with the insurance requirements in the Contract and shall require the same of all of its contractors, subcontractors, suppliers, consultants, and subconsultants at each tier. To the extent that there is any exclusion, deficiency, reduction, or gap in a policy which makes the insurance more restrictive than the coverage required, the Contractor agrees to remain responsible and obligated to make the Owner whole as if the Contractor and all of its contractors, subcontractors, suppliers, consultants, and subconsultants at each tier fully met the insurance requirements of the contract.

b. Owner's Right to Terminate, Modify, or Not Procure

Any insurance procured by the Owner is solely for the Owner's benefit and is not intended to replace or supplement any insurance coverage which otherwise would have been maintained by the Contractor or by any of its contractors, subcontractors, suppliers, consultants, or sub-consultants at each tier. Owner is not obligated to procure any insurance pursuant to these requirements and retains the right, at its sole discretion, to terminate or modify any such insurance which might be procured by the Owner pursuant to this Attachment.

END OF SECTION

SECTION 00700 – GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

PART 1 – GENERAL CONDITIONS

1.01 BASIC DEFINITIONS

A. THE CONTRACT DOCUMENTS

The Contract Documents consist of:

1. The Project Manual containing the Bidding Documents, Bonds, Affidavits, Compliance Forms, Statements, Insurance Requirements and Documents, the Contract between Owner and Contractor (herein referred to as the Contract), Conditions of the Contract (General Conditions), General Requirements and other Requirements, Reports, and Specifications.
2. The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, to the extent approved by Owner, showing the design, location and dimensions of the Work, and generally include plans, elevations, sections, details, models, electronic data, Building Information Modeling (BIM) schedules and diagrams.
3. All Addenda issued prior to, and all Modifications issued after, execution of the Contract.
4. A Modification is a written amendment to the Contract signed by both parties, or a Change Order, work order or written order for a minor change in the Work issued by the Owner

B. THE CONTRACT

1. The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The parties will not be bound by or be liable for any statement, representation, promise, inducement or understanding of any kind or nature not set forth herein.
2. No changes, amendments or modifications of any of the terms or conditions of the Contract will be valid unless reduced to writing and signed by both parties. The Contract may be amended or modified only by a Modification. Except as provided in Paragraph 3.18, nothing contained in the Contract Documents will be construed to create any contractual relationship (1) between the Design Professional and the Contractor, (2) between the Owner or the Design Professional and a Subcontractor or Sub-Subcontractor, (3) between the Owner and the Design Professional, or (4) between any persons or entities other than the Owner and the Contractor. The Contract will be construed in accordance with the laws of the State of Florida. In any action initiated by one party against the other, venue will lie in Hillsborough County, Florida. The Design Professional will, however, be entitled to performance and enforcement or obligations under the Contract intended to facilitate performance of the Design Professional's duties.

- a. The Contractor will not assign, transfer, convey or otherwise dispose of the Contract or its right, title or interest in it without previous consent of the Owner which consent will not be unreasonably withheld. Owner's consent to any assignment will not relieve the Contractor of any of its agreements, responsibilities, or obligations under this Contract, and the Contractor will be and remain as fully responsible and liable for the defaults, acts, and omissions of Contractor's assignees and Subcontractors arising in connection with the performance of this Contract.
- b. Subject to the limitations upon assignment and transfer herein contained, this Contract will be binding upon and inure to the benefit of the parties hereto, their respective successors and assigns.
- c. The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

C. THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner or by separate contractors.

D. THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

E. THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the Work, and performance of related services.

F. THE PROJECT MANUAL

The Project Manual is the volume(s) usually assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract and Specifications.

1.02 EXECUTION, CORRELATION AND INTENT

- A. The Contract Documents must be signed in not less than duplicate by the Owner and Contractor as provided in the Contract Documents.
- B. Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

- C. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary and what is required by one will be as binding as if required by all. Performance by the Contractor will be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.
- D. Organization of the Specifications into divisions, sections and Parts, and arrangement of Drawings, will not control the Contractor in dividing the Work among subcontractors or in establishing the extent of Work to be performed by any trade.
1. The Contractor and all Subcontractors will refer to all of the Drawings, including those showing primarily the Work of the mechanical, electrical and other specialized trades, and to all of the Sections of the Specifications, and will perform all Work reasonably inferable therefrom as being necessary to produce the indicated results.
- E. Unless otherwise stated in the Contract Documents, words which have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.
- F. If Work is required by the Drawings and Specifications in a manner which makes it impossible to produce first class Work, or should discrepancies appear among the Contract Documents, the Contractor will request an interpretation before proceeding with the Work. If the Contractor fails to make such a request, no excuse will thereafter be entertained for failure to carry out the Work in a satisfactory manner. Should conflict occur in or between the Drawings and Specifications, the Contractor is deemed to have estimated the more expensive way of doing the Work unless Contractor will have asked for and obtained a written decision before submission of Contractor's Bid as to which method or materials will be required.
- G. All Work mentioned or indicated in the Contract Documents will be performed by the Contractor as part of this Contract unless it is specifically indicated in the Contract Documents that such construction is not in the Contract. In the event of any conflict(s) among the Contract Documents, the precedence in resolving such conflict(s) will be as follows:
1. General Requirements will govern over General Conditions.
 2. General Conditions will govern over Technical Specifications.
 3. Technical Specifications will govern over Drawings.
 4. Schedules will govern over Drawings.
 5. Large-scale Drawings will govern over smaller scale Drawings.
 6. Greater quantities will govern over lesser.
 7. Higher quality, as adjudged by the Owner, will govern over lesser.

(The above precedence are in numerical order and they will be construed to mean the order of precedence.)

- H. All indications or notations which apply to one of a number of similar situations, materials or processes will be deemed to apply to all such situations, materials or processes wherever they appear in the Work, except where a contrary result is clearly indicated by the Contract Documents.
- I. Where codes, standards, requirements and publications of public and private bodies are referred to in the Specifications, references will be understood to be the latest edition, including all amendments thereto, in effect on the date of receiving bids, except where otherwise indicated.
- J. Where no explicit quality or standards for materials or workmanship are established for Work, such Work is to be of good quality for the intended use and consistent with the quality of the surrounding Work and of the construction of the Project generally.
- K. All manufactured articles, materials, and equipment will be applied, installed, connected, erected, started up, tested, cleaned, and conditioned in accordance with the manufacturer's written or printed directions and instructions unless otherwise indicated in the Contract Documents.
- L. The Mechanical, Electrical and Fire Protection Drawings are diagrammatic only and are not intended to show the alignment, exact physical locations or configurations of such Work. Such Work will be installed, without additional cost to the Owner, to clear all obstructions, permit proper clearances for the Work of other trades, and present an orderly appearance where exposed. Prior to beginning such Work, the Contractor will prepare coordination drawings and complete detailed layout drawings showing the exact alignment, physical location and configuration of the mechanical, electrical and fire protection installations and demonstrating to the Owner's satisfaction that the installations will comply with the preceding sentence. Coordination drawings and complete detailed layout drawings will be submitted to the for Owner's review prior to the commencement of the Work.
- M. Exact locations of fixtures and outlets will be obtained from the Owner as provided in Subparagraph 3.02 E. before the Work is roughed in. Work installed without such information from the Owner will be relocated at the Contractor's expense.
- N. Test boring or soil test information included with the Contract Documents or otherwise made available to the Contractor was obtained by the Owner in the design of the Project or Work. The Owner does not warrant such information to the Contractor as an accurate (an exact) indication but is an approximate indication of subsurface conditions, and no claim for extra cost or extension of time resulting from reliance by the Contractor on such information will be allowed.
- O. Where the Work is to fit with existing conditions or construction not included in this Contract, the Contractor will fully and completely join the Work with such conditions or construction, unless otherwise specified.

1.03 OWNERSHIP AND USE OF DESIGN PROFESSIONAL'S DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS

All Drawings, Specifications and other documents furnished by the Design Professional or Owner are and will remain the property of the Owner. The Drawings, Specifications and other documents prepared by the Design Professional or Owner are instruments of the Design Professional's or Owner's service through which the work to be executed by the Contractor is described. The Contractor may retain one

contract record set. Neither the Contractor nor any Subcontractor, Sub-Subcontractor or material or equipment supplier will own or claim a copyright in the Drawings, Specifications and other documents prepared by the Design Professional or Owner, and unless otherwise indicated, the Design Professional or Owner will be deemed the author of them and will retain all common law, statutory, copyright and other reserved rights. All copies of them, except the Contractor's record set, will be returned or suitably accounted for to the Design Professional or Owner, on request, upon completion of the Work. The Drawings, Specifications and other documents prepared by the Design Professional or Owner, and copies thereof furnished to the Contractor, are for use solely with respect to this Project. They are not to be used by the Contractor or any Subcontractor, Sub-Subcontractor or material or equipment supplier on other projects or for additions to this Project outside the scope of the work without the specific written consent of the Owner. The Contractor, Subcontractors, Sub-Subcontractors and material or equipment suppliers are granted a limited license to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Design Professional or owner appropriate to and for use in the execution of their work under the Contract Documents. All copies made under this license will bear the statutory copyright notice, if any, shown on the Drawings, Specifications and other documents prepared by the Design Professional or Owner. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Design Professional's or Owner's copyright or other reserved rights.

1.04 CAPITALIZATION

Terms capitalized in these general conditions include those which are (1) specifically defined, (2) the titles of numbered Parts and identified references to paragraphs, subparagraphs and clauses in the document or (3) the titles of other documents published.

1.05 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

PART 2 – OWNER

2.01 DEFINITION

The Owner is the Hillsborough County Aviation Authority (Authority) and is referred to throughout the Contract Documents as if singular in number. The term "Owner" means Authority or the Owner's authorized representative.

2.02 INFORMATION AND SERVICES REQUIRED OF THE OWNER

- A. The Owner will make available Record Documents and Drawings pertaining to the existing buildings and/or facilities relative to this Project. The Owner does not warrant the accuracy and completeness of such Record Documents and Drawings and they are not a part of the Contract Documents.
- B. Information or services required of the Owner will be furnished by the Owner with reasonable promptness after receipt from the Contractor of a written request for such information or services.

- C. The Contractor will be furnished free of charge, one copy of the Drawings and conformed Project Manuals. Additional sets can be made from the CD provided with the conformed set.
- D. The foregoing are in addition to other duties and responsibilities of the Owner enumerated in Section 00700 –GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION.

2.03 OWNER’S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Paragraph 11.02 or persistently fails to carry out Work in accordance with the Contract Documents, the Owner, the Design Professional, or other authorized representatives, by written order signed personally, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work will not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Subparagraph 6.01 C.

2.04 OWNER’S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven day period after receipt of written Notice from the Owner to begin and prosecute correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate change order will be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the Design Professional’s or Owner’s additional services and expenses made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor will pay the difference to the Owner.

2.05 PERSONAL LIABILITY OF PUBLIC OFFICIALS

In carrying out any of the Contract provisions or in exercising any power or authority granted to it by this Contract, there will be no liability upon the Design Professional or Owner, its authorized representatives, or any officials of the Owner either personally or as an official of the Owner. It is understood that in such matters they act solely as agents and representatives of the Owner. Contractor agrees to waive any personal claims it may have against Design Professional, its authorized representative or any officials of the Owner including its Board members, officers, employees, agents and volunteers.

2.06 OWNER DIRECT PURCHASES

The Owner reserves the right, at the Owner’s option, to direct purchase materials, equipment, supplies and furnishings involved in the Project, so as to save sales tax which would otherwise have been due with regard to the purchase of the materials, equipment, supplies and furnishings. Pursuant to Section 212.08 Fla. Stat. and Rules 12A-1.094 and 12A-1.038 Fla. Admin. Code, the Owner and Contractor agree to the following procedure regarding the Owner’s direct purchase from suppliers, vendors and materialmen of certain material, equipment, supplies and furnishings to be used in the Project:

- A. The Contractor shall provide the Owner a list of all materials, equipment, supplies and furnishings required for the project and the proposed suppliers, vendors and materialmen for those materials, equipment, supplies and furnishings as well as the date upon which those materials, equipment, supplies and furnishings are required to be delivered to the site, a description of the materials, estimated quantities and prices.

This list shall be submitted at the same time as the preliminary schedule of values and the Project schedule.

- B. The Owner shall determine the materials, equipment, supplies and furnishings it will direct purchase and provide that information to the Contractor no later than 60 days after award of the Contract.
- C. In order to not delay the project, the Contractor shall submit to the Owner no later than ten calendar days prior to the date that the purchase order must be issued for timely delivery of the materials, equipment, supplies and/or furnishings a Purchase Order Requisition Form indicating the proposed supplier, vendor or materialman for the materials, equipment, supplies and furnishings, the description of the materials, equipment, supplies and furnishings and the price, quantity, delivery terms, delivery location, warranties and guarantees. Prior to the delivery of the Purchase Order Requisition Form, the Contractor must enter into a contractual relationship with the supplier, vendor or materialman that includes the materials, equipment, supplies and furnishings to be direct purchased and incorporates these terms. All purchase orders made by the Owner that direct purchase materials, equipment supplies or furnishings shall be subject to the Owner's standard PO terms and conditions which are made a part hereof.
- D. The Contractor, prior to initiating the Purchase Order Requisition Form, will prepare and submit to the Owner a deductive change order request to the Contract. It is agreed that the Owner's purchase order will not be processed until the deductive change to the prime contract has been completed. No later than 10 calendar days after receipt of the Purchase Order Requisition Form, Owner shall prepare its Purchase Order for materials, equipment, supplies and furnishings specified by the Contractor which the Owner chooses to purchase directly. The Owner will deliver the Purchase Order to the Contractor and promptly upon receipt of each Purchase Order, Contractor shall verify the terms and conditions of the Purchase Order prior to Owner's issuance to supplier and in a manner to assure proper and timely delivery of items. After such verification by the Contractor, the Owner shall issue the Purchase Order to the supplier, vendor or materialman. The Purchase Order shall require that the supplier, vendor or materialman provide the required shipping and handling insurance and retain ownership until received in an acceptable condition by the Contractor. The Purchase Order shall also require that the supplier, vendor or materialman invoice the Owner directly for the purchase price of the Owner Direct Purchased materials, equipment, supplies and furnishings. The Purchase Order shall also require the delivery of the Owner Direct Purchased materials, equipment, supplies and furnishings on the delivery date provided by the Contractor in the Purchase Order Requisition Form and shall indicate F.O.B. jobsite. The Owner's Purchase Orders shall contain or be accompanied by the Owner's exemption certificate and must include the Owner's name, address, and exemption number with issue and expiration date shown. The Owner shall issue each supplier, vendor or materialman a Certificate of Entitlement on the Certificate of Entitlement Form attached hereto with each Purchase Order.
- E. Contractor shall be fully responsible for all matters relating to the receipt of materials, equipment, supplies and furnishings in accordance with these Procedures, including, but not limited to, verifying correct quantities, verifying documentation of orders in a timely manner, coordinating purchases, providing and obtaining all warranties and guarantees

in favor of and for the benefit of the Owner required by the Contract Documents, inspection and acceptance of the goods at the time of delivery and insuring that all materials, equipment, supplies and furnishings meet the contract requirements and specifications. At the time of, and subsequent to, the delivery of such materials, equipment, supplies and furnishings, the Owner shall be liable for all loss or damage to materials, equipment, supplies and furnishings purchased pursuant to the Purchase Order. To the maximum extent permitted by law and in addition to the Contractor's obligations to provide insurance and defend the Owner, the Contractor agrees to indemnify and hold harmless the Owner, and its Board Members, officers, employees, servants, volunteers, and agents, from any and all claims of whatever nature resulting from non-payment of goods to suppliers, vendors and materialmen arising from the actions or directions of Contractor. In addition to the duty to indemnify and hold harmless, the Contractor agrees to defend the Owner, and its Board Members, officers, employees, servants, volunteers and agents from any and all claims of whatever nature resulting from non-payment of goods to suppliers, vendors and materialmen resulting from the actions or directions of the Contractor. Notwithstanding the foregoing, the Owner shall be responsible for payment of the invoices issued by the supplier, vendor or materialman pursuant to the procedures outlined herein and will rely on the Contractor's proper acceptance of the delivered materials, equipment, supplies and furnishings.

- F. Upon receipt of the materials, equipment, supplies and furnishings, the Contractor shall verify in writing to the Owner that the materials, equipment, supplies and furnishings were received and agree to approve the invoice for payment. The invoice shall be thereupon furnished to the Owner for processing and payment in the manner as all other Owner invoices are processed. The Owner and Contractor shall agree to a deductive change order for the amount of the materials plus the amount of the sales tax saved through the direct purchase. These deductive change orders may be combined and issued monthly for the convenience of the Owner at the Owner's discretion.
- G. The Contractor shall be responsible for obtaining and managing all warranties and guarantees in favor of and for the benefit of the Owner for all materials, equipment, supplies and furnishings as required by the Contract. All repairs, maintenance or damage repair calls shall be forwarded to the Contractor for resolution with the appropriate supplier, vendor or materialman pursuant to the terms of the warranty provisions contained elsewhere in the Agreement.
- H. The transfer of possession of Owner Direct Purchased materials, equipment, supplies and furnishings from the Owner to the Contractor shall constitute a bailment for mutual benefit of the Owner and the Contractor. The Owner shall be considered the bailor and the Contractor the bailee of the Owner Direct Purchased materials, equipment, supplies and furnishings. Owner Direct Purchased materials, equipment, supplies and furnishings shall be considered returned to the Owner for purposes of its bailment at such time as they are incorporated into the Project or consumed in the process of completing the Project. Bailee shall have the duty to safeguard, store and protect all Owner Direct Purchased materials, equipment, supplies and furnishings.
- I. The Contractor shall maintain insurance in favor of and for the benefit of the Owner pursuant to the Contract requirements which shall be sufficient to protect against any loss of or damage to Owner Direct Purchased materials, equipment, supplies and

furnishings. Such insurance shall cover the full value of any Owner Direct Purchased materials, equipment, supplies and furnishings not yet incorporated into the Project from the time the Owner first takes title which shall be at the time of delivery and acceptance of the materials, equipment, supplies and furnishings by the Contractor as provided in above.

- J. In order to arrange for the prompt payment to the supplier, vendor or materialman, the Contractor shall provide to the Owner, a list indicating the acceptance of the materials, equipment, supplies and furnishings in accordance with the established monthly Payment Request Schedule. The list shall include a copy of the applicable Purchase Order, invoices, delivery tickets, written acceptance of the delivered items, and such other documentation as may be reasonably required by the Owner. Upon receipt and verification of the appropriate documentation, the Owner shall prepare a payment to the supplier, vendor or materialman based upon the receipt of data provided. This payment will be released, delivered and remitted directly to the supplier, vendor or materialman by the Owner. The Contractor agrees to assist the Owner to immediately obtain partial or final release of lien waivers or bond waivers as appropriate.
- K. From the time of delivery and acceptance, the Owner shall have and retain title to any and all Owner Direct Purchased materials, equipment, supplies and furnishings.
- L. Risk of Loss
 - 1. Notwithstanding any provision in this Agreement to the contrary, except with respect to tangible personal property purchased by the Owner for the purpose of receiving a tax exemption under Section 212.08(6), Fla. Stat., if any, the risk of loss shall remain with the Contractor until Final Completion.
 - 2. The Owner shall retain the risk of loss of and damage to Owner furnished materials, equipment, supplies and furnishings for the purpose of receiving a tax exemption under Section 212.08(6), Fla. Stat., which meets the criteria in Rule 12A 1.094(4)(b)(1-4), Fla. Admin. Code, to determine if the Owner is the purchaser for the purposes of the tax exemption under Section 212.08(6), Fla. Stat.
 - 3. The Owner shall be solely entitled to the proceeds paid and attributable to damage or loss to Owner furnished materials, equipment, supplies and furnishings under the Property/Builders Risk policies.
- M. The Contractor shall provide a final summary of the materials, equipment, supplies and furnishings purchased directly by the Owner and the sales tax savings recognized by the Owner at the close out of the Project.
- N. The current State Sales Tax is 6% and the current Hillsborough County Discretionary Sales Tax is 2.5%. The sales tax calculation is 6% on the total purchase and 2.5% on the purchase up to and including the first \$5,000.00.

PART 3 – CONTRACTOR

3.01 DEFINITION

The Contractor is the person or entity identified as such in the Contract and is referred to throughout the Contract Documents as if singular in number. The term “Contractor” means the Contractor or the Contractor’s authorized representative.

3.02 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

- A. Prior to starting the Work, and at frequent intervals during the process thereof, the Contractor will carefully study and compare the Contract Documents with each other and with the information furnished by the Owner pursuant to Paragraph 2.02 B and will at once report to the Owner, any error, inconsistency or omission the Contractor may discover. Any necessary change will be ordered as provided in Part 7, CHANGES IN THE WORK, subject to the requirements of Paragraph 1.02 and other provisions of the Contract Documents.
 - 1. If the Contractor proceeds with the Work without such notice to the Owner, having discovered such errors, inconsistencies or omissions, or if by reasonable study of the Contract Documents, the Contractor could have discovered such, the Contractor will bear all costs arising therefrom.
- B. The Contractor will take field measurements and verify field conditions and will carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered will be reported to the Owner at once.
- C. The Contractor will perform the work in accordance with the Contract Documents and submittals approved pursuant to Paragraph 3.12.
- D. The Contractor will give the Owner timely notice of all additional Drawings, Specifications, or instructions required to define the Work in greater detail, or to permit the progress of the Work.
- E. The Contractor will not proceed with any Work not clearly and consistently defined in detail in the Contract Documents, but will request additional Drawings or instructions from the Owner as provided in Subparagraph 3.02 D. If the Contractor proceeds with such Work without obtaining further Drawings, Specifications or instructions, the Contractor will correct Work incorrectly done at the Contractor’s own expense.

3.03 SUPERVISION AND CONSTRUCTION PROCEDURES

- A. The Contractor will supervise and direct the Work, using the Contractor’s best skill and attention. The Contractor will be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.
- B. The Contractor will be responsible to the Owner for the acts and omissions of all entities or persons performing or supplying the Work under the Contract.
- C. The Contractor will not be relieved of obligations for performing the Work in accordance with the Contract Documents either by activities or duties of the Owner in the

administration of the Contract, or by tests, inspections or approvals required or performed by persons other than the Contractor.

- D. The Contractor will be responsible for inspection of portions of Work already performed under the Contract to determine that such portions are in proper condition to receive subsequent work.
- E. All Work by the Contractor will be performed in a workmanlike manner, satisfactory to the Owner. The Contractor will provide adequate supervision and inspections to assure competent performance of the Work.

3.04 LABOR AND MATERIALS

- A. Unless otherwise provided in the Contract Documents, the Contractor will provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. The word "provide" will mean furnish and install complete, including connections, unless otherwise specified.
- B. The Contractor will enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor will not permit employment of unfit persons or persons not skilled in tasks assigned to them.

3.05 WARRANTY

- A. The warranty provided in this Paragraph 3.05 will be in addition to and not in limitation of any other warranty provided by the Contract Documents or otherwise prescribed by Law.
- B. All defective Work or Work found not to be in compliance with the requirements of the Contract, or applicable law, building codes, rules or regulations, appearing within one year of the date of Substantial Completion of the whole Work will be promptly corrected by the Contractor at the Contractor's own cost.
- C. The Contractor warrants that the materials and equipment furnished under the Contract will be new and of recent manufacture unless otherwise specified, and that all work will be of good quality, free from faults and defects, and in conformance with the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective.
- D. The Contractor will be responsible for determining that all materials furnished for the Work meet all requirements of the Contract Documents. The Owner may require the Contractor to produce reasonable evidence that a material meets such requirements, such as certified reports of past tests by qualified testing laboratories, report of studies by qualified experts, or other evidence which in the opinion of the Owner would lead to a reasonable certainty that any material used, or proposed to be used, in the Work meets the requirements of the Contract Documents.
 - 1. All such data will be furnished at the Contractor's expense. This provision will not require the Contractor to pay for periodic testing of different batches of the same material, unless such testing is specifically required by the Contract Documents to be performed at the Contractor's expense.

- E. In all cases in which a manufacturer's name, trade name or other proprietary designation is used in connection with materials or articles to be furnished under this Contract, whether or not the phrase "or equal" is used after such name, the Contractor will furnish the product of the named manufacturer(s) without substitution, unless a written request for a substitution has been submitted by the Contractor and approved by the Design Professional as provided in Subparagraph 3.05 D. Refer to Section 01605 – PRODUCTS AND SUBSTITUTIONS for additional requirements.
- F. If the Contractor proposes to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, the Contractor will inform the Owner in writing of the nature of such deviation at the time the material is submitted for approval and will request written approval of the deviation from the requirements of the Contract Documents.
- G. In requesting approval of deviations or substitutions, the Contractor will provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation will provide a quality or result at least equal to that otherwise attainable. If, in the opinion of the Owner, the evidence presented by the Contractor does not provide a sufficient basis for such reasonable certainty, the Owner may eject such substitution or deviation without further investigation.
- H. The Contract Documents are intended to produce a structure of consistent character and quality of design. All components of the structure including visible items of mechanical and electrical equipment have been selected to have a coordinated design in relation to the overall appearance and function of the Project. The Design Professional or Owner will judge the design and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the Project, as well as for their intrinsic merits. The Design Professional or Owner will not approve as equal to the materials specified, proposed substitutes which, in the Design Professional's or Owner's opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the Project. In order to permit coordinated design of color and finishes, the Contractor will, if required by the Design Professional or Owner, furnish the substituted material in any color, finish, texture, or pattern which would have been available from the manufacturer originally specified, at no additional cost to the Owner.
- I. Any additional cost, or any loss or damage arising from the substitution of any material or any method from those originally specified, will be borne by the Contractor, notwithstanding approval or acceptance of such substitution by the Owner or the Design Professional, unless such substitution was made at the written request or direction of the Owner or the Design Professional.
- J. The Contractor will procure and deliver to the Owner, prior to Final Payment, all special warranties required by the Contract Documents. Delivery by the Contractor will constitute the Contractor's guarantee to the Owner that the warranty will be performed in accordance with its terms and conditions. Refer to Sections 01700 – PROJECT CLOSEOUT and 01740 – WARRANTIES for additional requirements.
- K. The warranties set out herein are not in lieu of any other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular purpose. The warranties set out herein are not in lieu of any other contractual, legal or equitable remedies available to the Owner. If the Contractor fails to correct any defective Work or

Work found not to be in compliance with the requirements of the Contract Documents, or applicable laws, building codes, rules or regulations, within a reasonable time after receipt of written notice from the Owner, the Owner may correct it in accordance with Owner's right to carry out the Work. If such case occurs prior to final payment, an appropriate Change Order shall be issued deducting the cost of correcting such deficiencies from payments then or thereafter due to the Contractor. If payments then or thereafter due Contractor are not sufficient, the Contractor shall pay the difference to the Owner. All claims, costs, losses, and damages arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work by others) will be paid by Contractor.

- L. If the Contractor's correction or removal of defective Work causes damage to or destroys other completed or partially completed construction, the Contractor shall be responsible for the cost of correcting the destroyed or damaged construction.
- M. Nothing contained in Article 3.05 shall be construed to establish a period of limitations with respect to other obligations the Contractor has under this Contract. Establishment of the one-year period for correction of Work as described in this Article relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than to specifically correct the Work.
- N. If after the one year correction period, but before the applicable limitations period, the Owner discovers any defective Work or Work found not to be in compliance with the requirements of the Contract Documents, or applicable laws, building codes, rules or regulations, the Owner shall, unless the defective Work or Work found not to be in compliance with the requirements of the Contract Documents, or applicable laws, building codes, rules or regulations requires emergency correction, notify the Contractor. If the Contractor elects to correct the Work, it shall provide written notice of such intent within fourteen (14) days of its receipt of notice from the Owner. The Contractor shall complete the correction of Work within a mutually agreed time frame. If the Contractor does not elect to correct the Work, the Owner may correct the Work by itself or others and charge the Contractor for the reasonable costs of the correction. Owner shall provide Contractor an accounting of such correction costs incurred.
- O. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of the Work that is not in accordance with the Contract Documents or release the Contractor's obligation to perform the Work in accordance with the Contract Documents: (1) observations by the Owner or the Owner's agents; (2) recommendations for payment made to the Owner or payment by the Owner (whether progress or final); (3) issuance of Certificates of Substantial or Final Completion; (4) use or occupancy of the Work or any part thereof by the Owner; (5) any review and approval of a Shop Drawing or sample submittal; (6) any inspection, test or approval by others; or (7) any correction of defective Work by the Owner.

3.06 TAXES

- A. The Contractor will pay sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor which are legally enacted when Bids are received or

negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

- B. Pursuant to Sales and Use Tax Law, Chapter 212, Florida Statutes, the Hillsborough County Aviation Authority is exempt from the payment of sales tax. The Hillsborough County Aviation Authority Certificate Number is 85-8013883484C-4. Unless otherwise indicated in the Contract Documents, all goods and services performed by Subcontractor (Sub-Subcontractors) or by suppliers are not exempt from State Sales Tax. All work performed by subcontractors for the Contractor and all supplies provided to the Subcontractor or Contractor are not exempt from State Sales Tax. All questions regarding the State of Florida Sales and Use Tax Law should be referred to the State of Florida Department of Revenue, Tallahassee, Florida.

3.07 PERMITS, FEES AND NOTICES

- A. The Contractor will secure and pay for all necessary and required permits and licenses including, but not limited to, batch plant permit(s), building permit(s), and all other permits, as well as all other fees, charges, taxes, licenses and inspections necessary for proper execution of the Contract and which are legally required when Bids are received. The Contractor will secure and pay for all Certificates of Inspection and of Occupancy that may be required by authorities having jurisdiction over Work. No extension of time for completion will be granted. All appropriate sites, building and electrical permits, etc. shall be obtained and paid for by the Contractor. In addition, jurisdiction over this Work, and all required Certificates of Inspection and Occupancy, will be obtained from the appropriate jurisdiction as listed below:

Tampa International Airport (TPA)	Hillsborough County Board of County Commissioners (BOCC) and/or City of Tampa
Peter O. Knight Airport (POK)	City of Tampa
Plant City Airport (PCA)	City of Plant City
Tampa Executive Airport (TEA)	BOCC

- B. The Contractor will comply fully with all applicable federal, state, county, municipal and other governmental laws, executive orders, wage, hour and labor, equal employment opportunity, disadvantaged business enterprises, pollution control and environmental regulations, applicable national and local codes, Florida Department of Transportation (FDOT) Policies, Guidelines, Standards, Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (Commonly referred to as the "Florida Green Book"), Manual on Uniform Traffic Control Devices and requirements, FAA Advisory Circulars, and Owner's Rules and Regulations. Any projects with FDOT funding require the Contractor to comply with all applicable provisions of the FDOT Public Transportation Grant Agreement. The Contractor will obtain all necessary permits, pay all required charges, fees and taxes and otherwise perform these services in a legal manner. In the event that any construction occurs on FDOT right of way, the Contractor shall comply with all FDOT requirements contained in Exhibit C of the FDOT Public Transportation Grant Agreement. The Contractor will obtain all necessary permits, pay all required fees and taxes, and otherwise perform these services in a legal manner. The Contractor will give all notices necessary and incidental to the due and lawful prosecution of the Work so as not to delay the completion of the Work.

- C. If the Contractor observes that portions of the Contract Documents are at variance with applicable laws, statutes, ordinances, building codes, and rules and regulations, the Contractor will promptly notify the Owner in writing, and necessary changes will be accomplished by appropriate Modification.
- D. If the Contractor performs Work that it knew or should have known to be contrary to laws, statutes, ordinances, building codes, and rules and regulations without such notice to the Owner and Design Professional, the Contractor will assume full responsibility for such Work and will bear the attributable costs.
- E. The Contractor will keep fully informed of all Federal and State Laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the Work, or which in any way affect the conduct of the Work. To the maximum extent permitted by law, the Contractor will at all times observe and comply with all such laws, ordinances, regulations, orders and decrees.

3.08 ALLOWANCES

- A. The Contractor will include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances will be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor will not be required to employ persons or entities against which the Contractor makes reasonable objection.
- B. Unless otherwise provided in the Contract Documents:
 - 1. Allowances will cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
 - 2. Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts will be included in the allowances;
 - 3. Whenever costs are more than or less than allowances, the Contract Sum will be adjusted accordingly by Change Order. The amount of the Change Order will reflect (1) the difference between actual costs and the allowances under Subparagraph 3.08 B.1. and (2) changes in Contractor's costs under Subparagraph 3.08 B.2.

3.09 CONTRACTOR'S MANAGEMENT TEAM

- A. The Contractor will employ a competent, full-time Project Management Team (Team) reasonably acceptable to the Owner and the Design Professional, consisting of at least one Field Supervisor and necessary representatives who will be in attendance at the Project site full time during the progress of the Work until the date of Substantial Completion of the whole Work, or for such additional time thereafter as the Owner may determine to be necessary for the expeditious completion of the Work.
 - 1. The names and qualifications of this Team for this Work will be submitted as part of Section 00420 – BIDDER'S GENERAL BUSINESS INFORMATION. They will have a minimum of five years of experience on similar projects of equal difficulty.

2. The Owner will not recognize any subcontractor on the Work. The Contractor will at all times when Work is in progress be represented either in person by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Owner or the Design Professional.
3. The Team will each have full authority to act on the Contractor's behalf. It is agreed and understood that, if requested in writing by the Owner or the Design Professional, the Contractor will replace any member of the Team with another individual meeting the required qualifications within three days of the receipt of the request if the Team member is found to be unsatisfactory to the Owner or the Design Professional for whatever reason. The Team will represent the Contractor and communications given to the Team will be as binding as if given to the Contractor. Important communications will be similarly confirmed on written request for each case. Should the Owner or the Design Professional find any person(s) employed on the Project to be incompetent, unfit, or otherwise objectionable for its duties, the Contractor will immediately cause the employee to be dismissed and said employee will not be re-employed on this Project without written consent of the Owner or the Design Professional.

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

- A. The Contractor will submit preliminary and CPM (or bar chart) construction schedules in accordance with requirements under Section 01315 – SCHEDULES, PHASING. The schedule will not exceed time limits current under the Contract Documents. The schedule will be revised at appropriate intervals as required by the conditions of the Work and Project, will be related to the entire Project to the extent required by the Contract Documents, and will provide for expeditious and practicable execution of the Work.
- B. The Contractor will prepare and keep current, for the Design Professional's and Owner's approval, a schedule of submittals which is coordinated with the Contractor's construction schedule and allows the Design Professional and Owner reasonable time to review submittals.
- C. The Contractor's performance will conform to the most recent schedules.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor will maintain at the site for the Owner one as-built set of the Drawings, Specifications, addenda, Change Orders and other Modifications, in good order and marked currently to record changes and selections made during construction, as well as approved Shop Drawings, Product Data, Samples and similar required submittals. These will be available to the Owner and Design Professional and will be delivered to the Design Professional for submittal to the Owner upon completion of the work. As-Built drawings will be reviewed monthly as part of the pay application process.

3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Shop Drawings are drawings, diagrams, schedules, models and other data (including electronic data) specifically prepared for the work by the Contractor or a Subcontractor, Sub-Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

- B. Product data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
- C. Samples are physical examples which illustrate materials, equipment or workmanship and established standards by which the Work will be judged.
- D. Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Review by the Design Professional or Owner is subject to the limitations of Subparagraph 4.02 G.
- E. The Contractor will review, approve and submit to the Design Professional Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals made by the Contractor which are not required by the Contract Documents may be returned without action.
- F. The Contractor will perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Design Professional. Such work will be in accordance with approved submittals.
- G. By approving and submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor thereby represents that the Contractor has determined and verified all dimensions, qualities, field dimensions, relations to existing work, coordination with work to be installed later, coordination with information on previously accepted Shop Drawings, Product Data, Samples, or similar submittals and verification of compliance with all the requirements of the Contract Documents. The accuracy of such information is the responsibility of the Contractor. In reviewing Shop Drawings, Product Data, Samples, and similar submittals, the Owner will be entitled to rely upon the Contractor's representation that such information is correct and accurate.
- H. The Contractor will not be relieved of responsibility for deviations from requirements of the Contract Documents by the Owner's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Owner in writing of such deviation at the time of submittal and the Owner has given written approval to the specific deviation. The Contractor will not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Owner's approval thereof.
- I. The Contractor will direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Design Professional or Owner on previous submittals. Unless such written notice has been given, the Design Professional's or Owner's approval of a resubmitted Shop Drawing, Product Data, Sample, or similar submittal will not constitute approval of any changes not requested on the prior submittal.
- J. Informational submittals upon which the Owner is not expected to take responsive action may be so identified in the Contract Documents.

- K. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Design Professional or Owner will be entitled to rely upon such certifications, and the Design Professional or Owner will not be required to make any independent examination with respect thereto.
- L. The Contractor will keep one clean copy of each submittal brochure and each Shop Drawing, bearing the Design Professional's or Owner's review stamp, at the Job Site.
- M. The Design Professional's or Owner's review is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the Job Site, for information processes or techniques of construction, and for coordination of the Work of all trades.
- N. Burden-of-proof that products, materials, Shop Drawings, samples and submittals comply with the Contract Documents in every respect and that any substitutions, variations, deviations or modifications do exactly what is specified and will, in fact, work well in coordination and harmony and will serve the intended purpose will rest entirely with the Contractor. It will not be the Design Professional's or Owner's responsibility to have the burden-of-proof to prove the contrary.
- O. Submittals, requisitions, requests for interpretation, Shop Drawings and other items received by the Design Professional or Owner on Friday, Saturday, Sunday, on any normally recognized holiday, or on a day preceding such a holiday, will be considered received on the first working day (except Friday) which follows.
- P. Owner's date stamp of receipt will evidence date of receipt, modified per Paragraph 3.12 O. above. Date indicated on Owner's transmittal letter or transmittal form will be considered as date returned to Contractor.
- Q. Refer to Section 01340 – SHOP DRAWINGS, PRODUCT DATA AND SAMPLES for additional requirements.

3.13 USE OF SITE

- A. The right of possession of the premises and the improvements made thereon by the Contractor will remain at all times with the Owner. The Contractor's right to entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents.
 - 1. The Contractor will confine the Contractor's apparatus, the storage of materials and the operations of the Contractor's personnel to limits indicated by law, ordinances, the Contract Documents and permits and/or directions of the Design Professional and will not unreasonably encumber the premises with the Contractor's materials. The Owner will not be liable to the Contractor, the Subcontractors, their employees or anyone else with respect to the conditions of the premises.
 - 2. Material will be arranged and maintained in an orderly manner with use of walks, drives, roads and entrances unencumbered. Store, place and handle material and equipment delivered to the Project Site so as to preclude inclusion of foreign substances or causing of discoloration. Pile neatly and compactly and barricade to protect public from injury. Protect material as required to prevent

damage from weather or ground. Should it be necessary to move material at any time, or move sheds or storage platforms, the Contractor will move them as and when required at no additional cost to the Owner.

3. The Owner assumes no responsibility for materials stored in buildings or on the Project site. The Contractor will assume full responsibility for damage due to storing of materials. Repairing of areas used for placing of sheds, offices and storage of materials will be performed by the Contractor.

3.14 CUTTING AND PATCHING

- A. The Contractor will be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly.
- B. The Contractor will not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor will not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent will not be unreasonably withheld. The Contractor will not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.
- C. Refer to Section 01045 – CUTTING AND PATCHING for additional requirements.

3.15 CLEAN UP

- A. The Contractor will keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor will remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials.
- B. If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the cost thereof will be charged to the Contractor.
- C. Daily Clean-Up: The Contractor will keep the premises free from accumulation of waste materials or rubbish caused by Contractor's operations on a daily basis. In areas used by the public or exposed to public view, the Contractor will keep these areas in such a state of cleanliness so as not to reflect unfavorably upon the "image" of the Owner or any airport authority concerned. In areas near airport operations, the Contractor will keep areas free from materials which could possibly be ingested into an aircraft engine or which could cause damage by being blown by aircraft engine blast effects.
- D. Refer to Sections 01110 – AIRPORT PROJECT PROCEDURES and 01700 – PROJECT CLOSEOUT for additional requirements.

3.16 ACCESS TO WORK

The Contractor will provide the Owner and Design Professional access to the Work in preparation and progress wherever located.

3.17 ROYALTIES AND PATENTS

The Contractor will pay all royalties and license fees. The Contractor will defend suits or claims for infringement of patent rights and will hold the Owner and Design Professional harmless from loss on account thereof, but will not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a patent; the Contractor will be responsible for such loss unless such information is promptly furnished to the Owner.

3.18 RECORDS AND DOCUMENTS

The Contractor will maintain all records and documents relating to the Contract during the course of the Work and for a period of seven years after the date of Final Acceptance. This includes all books and other evidence (including but not limited to subcontracts, subcontract change orders, purchase orders, bid tabulations, proposals, and other documents associated with the Contract) bearing on the Contractor's costs and expenses under this Contract. The Contractor will make these records and documents available for inspection by the Owner at the Contractor's office at all reasonable times, without direct charge, and will provide electronic copies of all requested documents including but not limited to subcontracts, subcontract change orders, purchase orders, bid tabulations, proposals, and all other documents associated with the project at no cost to the Owner. If approved by the Owner, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents. If the Contractor fails to make the records and documents available, the Owner may, after written notice to the Contractor, take such action as may be necessary including the withholding of any further payment. Furthermore, failure to make such records and documents available may be grounds for termination pursuant to Paragraph 13.01 or grounds for Owner to seek damages from Contractor.

PART 4 – ADMINISTRATION OF THE CONTRACT

4.01 Design Professional

- A. The Design Professional is referred to throughout the Contract Documents as if singular.
 - 1. Wherever the term "Design Professional" appears in the Contract Documents, it will mean the Design Professional on record for the project or Owner's other authorized representative(s).
 - 2. Wherever the term "Owner's authorized representative(s)" appears in the Contract Documents, it will include Owner, or Owner's other authorized representative(s).
- B. In case of termination of employment of the Design Professional, the Owner will appoint a Design Professional against whom the Contractor makes no reasonable objection and whose status under the Contract Documents will be that of the former Design Professional.

4.02 DESIGN PROFESSIONAL'S ADMINISTRATION OF THE CONTRACT

- A. The Design Professional will provide administration of the Contract as described in the Contract Documents, and will be the Owner's representative (1) during construction, (2) until final payment is due and (3) with the Owner's concurrence, from time to time during the correction period described in Paragraph 11.02. The Design Professional will advise and consult with the Owner. The Design Professional will have authority to act on behalf of the Owner.

- B. The Design Professional will visit the site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine in general if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. However, the Design Professional will not be required to make exhaustive or continuous on-site inspections to check quality or quantity of the Work. On the basis of on-site observations, the Design Professional will keep the Owner informed of the progress of the Work and will endeavor to guard the Owner against defects and deficiencies in the Work.
- C. The Design Professional will not have control over or charge of, and will not be responsible for, construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility as provided in Paragraph 3.03. The Design Professional will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Design Professional will not have control over or charge of, and will not be responsible for, acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons performing portions of the Work.
- D. Communications Facilitating Contract Administration. Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor will endeavor to communicate through the Design Professional. Communications by and with the Design Professional's consultants will be through the Design Professional. Communications by and with subcontractors and material suppliers will be through the Contractor. Communications by and with separate contractors will be through the Owner.
- E. Based on the Design Professional's observations and evaluations of the Contractor's Applications for Payment, the Design Professional will review and certify the amounts due the Contractor and will approve or disapprove the Application for Payment.
- F. The Owner and Design Professional will have authority to reject Work which does not conform to the Contract Documents. Whenever the Owner or Design Professional considers it necessary or advisable for implementation of the intent of the Contract Documents, the Owner or Design Professional will have authority to require additional inspection or testing of the Work in accordance with Subparagraphs 12.05 B. and 12.05 C., whether or not such work is fabricated, installed or completed. However, neither this authority of the Owner or Design Professional nor a decision made in good faith either to exercise or not to exercise such authority will give rise to a duty or responsibility of the Owner or Design Professional to the Contractor, subcontractors, material and equipment suppliers, their agents or employees, or other persons performing portions of the Work.
- G. The Design Professional will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents and only to the extent which the Owner or Design Professional believes desirable to protect the Owner's interests. The Design Professional's action will be taken with reasonable promptness, while allowing sufficient time in the Design Professional's professional judgment to permit adequate review, taking into account the time periods set forth in the latest recognized

Construction Schedule prepared by the Contractor and reviewed by the Design Professional. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Design Professional's review of the Contractor's submittals will not relieve the Contractor of the obligations under Paragraphs 3.03, 3.05 and 3.12. The Design Professional's review will not constitute approval of safety precautions or of any construction means, methods, techniques, sequences or procedures. The Design Professional's approval of a specific item will not indicate approval of an assembly of which the item is a component.

- H. The Design Professional or Owner will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Paragraph 7.04.
- I. The Design Professional will conduct inspections in conjunction with the Owner to determine the date or dates of Substantial Completion and the date of Final Acceptance, will receive and forward to the Owner for the Owner's review and records written warranties and related documents required by the Contract and assembled by the Contractor, and will review and certify a final Application for Payment upon compliance with the requirements of the Contract Documents.
- J. The Design Professional, in conjunction with the Owner, will interpret and decide matters concerning performance under and requirements of the Contract Documents on written request of the Contractor. The Design Professional's response to such requests will be made with reasonable promptness and within time limits agreed upon. The Design Professional may, as the Design Professional judges desirable, issue additional drawings or instructions indicating in greater detail the construction or design of the various parts of the Work. Such drawings or instructions may be affected by other supplemental instruction or other notice to the Contractor and, provided such drawings or instructions are reasonably consistent with the previously existing Contract Documents, the Work will be executed in accordance with such additional drawings or instructions without additional cost or extension of the Contract Time.
- K. Interpretations and decisions of the Design Professional, in conjunction with the Owner, will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Design Professional will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith.
- L. The Design Professional's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.
- K. When the Contractor considers that the whole work included in a construction contract, or a portion thereof designated in the contract documents for separate completion, is complete, the Contractor will notify the Owner and Design Professional in writing of the completion of the portion or the whole of the construction; and for all design work that originally required certification by a Professional Engineer, the Design Professional shall provide an Engineer's Certification of Compliance, signed and sealed by a Professional Engineer, the form of which is attached to the FDOT Public Transportation Grant Agreement to the Owner and Contractor in a timely manner. The certification shall

state that work has been completed in compliance with the Project construction plans and specifications. If any deviations are found from the approved plans or specifications, the certification shall include a list of all deviations along with an explanation that justifies the reason to accept each deviation.

4.03 CLAIMS AND DISPUTES

- A. Definition. A Claim is a written demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, or an extension of time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. Claims must be made by written notice. The responsibility to substantiate claims will rest with the party making the claim.
1. If for any reason the Contractor deems that additional cost or Contract Time is due to the Contractor for Work not clearly provided for in the Contract Documents or previously authorized changes in the Work, the Contractor will notify the Owner in writing of its intention to claim such additional cost or Contract Time before the Contractor begins the Work on which the Contractor bases the claim. If such notification is not given or the Owner is not afforded proper opportunity by the Contractor for keeping strict account of actual cost or time as required, then the Contractor hereby agrees to waive any claim for such additional cost or Contract Time.
 2. Such notice by the Contractor and the fact that the Owner or Design Professional has kept account of the cost or time of the Work will not in any way be construed as proving or substantiating the validity of the Claim. When the Work on which the Claim for additional cost or Contract Time is based has been completed, the Contractor will, within 21 calendar days, submit Contractor's written Claim to the Owner. The failure to give notice as required herein will constitute a waiver of said Claim. Claims arising prior to Final Payment or the earlier termination of the Contract will be referred initially to the Owner for action as provided in Paragraph 4.04.
- B. Claims must be made within 21 calendar days after occurrence of the event giving rise to such Claim or within 21 calendar days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. If the Contractor wishes to reserve its rights under this Paragraph, written notice of any event that may give rise to a Claim must be given within 21 calendar days of the event, whether or not any impact in money or time has been determined. Claims must be made by written notice. Any change or addition to a previously made Claim will be made by timely written notice in accordance with this Paragraph. The failure to give notice as required herein will constitute a waiver of said Claim.
- C. Continuing Contract Performance. Pending final resolution of a Claim, unless otherwise agreed in writing, the Contractor will proceed diligently with performance of the Contract. Owner, however, will be under no obligation to make payments on or against such disputed claims, disputes or other matters in question during the pendency of any proceedings to resolve such disputed claims, disputes or other matters in question.
- D. Non-Waiver of Claims: Final Payment. The making of final payment will not constitute a waiver of claims by the Owner.

- E. Claims For Concealed or Unknown Conditions. Owner may make available to the Contractor prior to the bid opening and during the performance of the Work, Record Documents and Drawings pertaining to the existing structures and/or facilities relative to this Project. Record Documents and Drawings will not be considered a part of the Contract Documents. Owner does not warrant the accuracy of such Record Documents and Drawings to the Contractor and the Contractor will be solely responsible for all assumptions made in reliance thereupon. Record Documents and Drawings are not warranted or intended to be complete depictions of existing conditions, nor do they necessarily indicate concealed conditions. The locations of electrical conduit, telephone lines and conduit, computer cables, FAA cables, storm lines, sanitary lines, irrigation lines, gas lines, mechanical apparatus and appurtenances, HVAC piping/ductwork, and plumbing may only appear schematically, if at all, and the actual location of such equipment is in many cases unknown. Contractor will take the foregoing into consideration when preparing its bid, and will not be entitled to any additional compensation on account of concealed conditions except as specifically set forth below.
1. Should the Contractor encounter concealed conditions in an existing structure or below the surface of the ground, not discoverable by a careful inspection and differing materially from conditions ordinarily encountered and generally recognized in or about a site of this type, the Contractor will stop work at the location where the concealed condition was discovered and give immediate written notice of the condition to the Owner. The Owner and Design Professional shall investigate and adjust the Contract Sum and/or time by Change Order upon claim by either party, if made before conditions are disturbed and in no event later than 21 days after the first observance of the conditions. Nothing herein is intended to limit or modify the obligations of the Contractor set forth in Section 01545 – UTILITIES. Contractor shall not be entitled to a Change Order for the Contract Sum and/or time if the Contractor knew of the existence of such conditions at the time Contractor bid, or the existence of such conditions could have been reasonably discovered or revealed as a result of any examination, investigation, exploration, test, or study of the site and contiguous areas as required by the Contract, or if Contractor failed to give written notice as required by this Article.
 2. There will be no adjustment of the Contract Sum on account of other costs resulting from topsoil or water conditions including, without limitation, costs on account of delay, administration, operations, temporary construction, cave-in or collapse of excavations, or pumping.
- F. Claims for additional cost. If the Contractor wishes to make claim for an increase in the Contract Sum, written notice as provided herein will be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under paragraph 10.03. Claim will be filed in accordance with the procedure established herein. Anticipated, unanticipated, abnormal or adverse weather conditions will not be the basis of a claim for additional cost. The Contract Sum will not be increased for any weather related conditions.
- G. CLAIMS FOR ADDITIONAL TIME.
1. If the Contractor wishes to make claim for an increase in the Contract Time, written notice as provided herein will be given. The Contractor will have the burden of demonstrating the effect of the claimed delay on the Contract Time,

and will furnish the Owner with such documentation relating thereto as the Owner will reasonably require. In the case of a continuing delay only one claim is necessary.

2. The Contract Time will not be increased for any reasonably anticipated weather related delay. The Owner may consider adverse weather conditions not reasonably anticipated as a basis of a claim for additional time.

H. ESCROW OF BID DOCUMENTS.

1. The Contractor agrees that all documents relied upon in making or supporting their Bid will be retained in escrow prior to the date the Contract is awarded and preserved and updated during the course of the Work until Final Payment is made. The Owner will have the right to inspect any and all such Bid Documents and to verify that such Bid Documents are properly escrowed prior to the time of the Award of the Contract, or at any time thereafter during the course of the Work.
 - a. If any Claim is made pursuant to the Contract, the Contractor will provide for the Owner's review, at the Owner's request, all escrowed Bid Documents. If the Owner requests to review the escrowed Bid Documents and the Contractor fails to timely provide them or has failed to preserve them, no claim by the Contractor will be honored by the Owner.
 - b. If the Contractor contends that such Bid Documents are proprietary or otherwise confidential, the Contractor will so state as to any such documents, will provide them to the Owner as part of the Claim process, and will identify all such documents as exempted from disclosure under Florida Statute Chapter 119.
 - c. Said escrowed Bid Documents referred to in this Part will be subject to review in the event of any audit. The Owner may require that an appropriate audit be conducted. In the event the audit supports the Contractor's claim, the Owner will pay for the audit. In the event the audit does not support the Contractor's claim, the Contractor will pay for the audit.
 - d. The Contractor will provide all information and reports requested by the Owner, or any of their duly authorized representatives, or directives issued pursuant thereto, and will permit access, for the purpose of audit and examination to the Contractor's books, records, accounts, documents, papers or other sources of information and its facilities, as may be determined by the Owner to be pertinent to ascertain compliance with this Part. The Contractor will keep all Project accounts and records which fully disclose the amount of the Bid. The accounts and records will be kept in accordance with an accounting system that will facilitate an effective audit in accordance with the Single Audit Act of 1984.

4.04 RESOLUTION OF CLAIMS AND DISPUTES

- A. The failure of Owner to enforce at any time or for any period of time any one or more provisions of this Contract will not be construed to be and will not be a waiver of any such provision or provisional or of its right thereafter to enforce each and every provision.
- B. The following shall occur as a condition precedent to the Owner's review of a claim unless waived in writing by the Owner:

Field Representatives' Meeting: Within five days (5) after a dispute occurs, the Contractor's senior project management personnel who have authority to resolve the dispute shall meet with the Design Professional and Owner's project representative who have authority to resolve the dispute, in a good faith attempt to resolve the dispute. If a party intends to be accompanied at a meeting by legal counsel, the other party shall be given at least three (3) working days' notice of such and also may be accompanied by legal counsel. All negotiations pursuant to this clause are confidential and shall be treated as compromise and settlement negotiations for purposes of rules of evidence.

Management Representatives' Meeting: If the Field Representatives' Meeting fails to resolve the dispute, a senior executive for the Contractor and for the Owner, neither of which have day to day Project management responsibilities, shall meet, within ten days (10) after a dispute occurs, in an attempt to resolve the dispute and any other identified disputes or any unresolved issues that may lead to dispute. The Owner may invite the Design Professional to this meeting. If a party intends to be accompanied at a meeting by legal counsel, the other party shall be given at least three (3) working days' notice of such and also may be accompanied by legal counsel. All negotiations pursuant to this clause are confidential and shall be treated as compromise and settlement negotiations for purposes of rules or evidence.

Following the Field Representatives' Meeting and the Management Representatives' Meeting, the Owner will review the Contractor's claims and may (1) request additional information from the Contractor which will be immediately provided to Owner, or (2) render a decision on all or part of the claim. The Owner will notify the Contractor in writing of the disposition of the claim within 21 days following the receipt of such claim or receipt of additional information requested.

- 1. If the Owner decides that the Work relating to such Claim should proceed regardless of the Owner's disposition of such Claim, the Owner will issue to the Contractor a written directive to proceed. The Contractor will proceed as instructed.

PART 5 – SUBCONTRACTORS

5.01 DEFINITIONS

- A. A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate Contractor or subcontractors of a separate Contractor.

- B. A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work. The term "Sub-Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-Subcontractor or an authorized representative of the Sub-Subcontractor.
- C. The Owner or Design Professional will not recognize any Subcontractor on the Work. The Contractor will at all times, when Work is in progress, be represented either in person by a qualified superintendent, or by other designated, qualified representative who is duly authorized to receive and execute orders of the Owner or Design Professional.

5.02 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

- A. Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, will furnish in writing to the Owner, the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. After due investigation, the Owner will promptly reply to the Contractor in writing stating whether or not the Owner has reasonable objection to any such proposed person or entity. Failure of the Owner to reply promptly will constitute notice of no reasonable objection.
- B. The Owner reserves the right to investigate the prequalification and qualifications and responsibility of proposed or actual Subcontractors, and to prohibit same from performing Work on the Project where such investigation, in the judgment of the Owner, reveals that such Subcontractors are unqualified and/or non-responsible. The Owner's criteria for such determination may include, without limitation: financial condition, experience, character of workers and equipment, and past performance. The Contractor will not contract with a proposed person or entity to which the Owner has made reasonable and timely objection. The Contractor will not be required to contract with anyone to whom the Contractor has made reasonable objection.
- C. If the Owner has reasonable objection to any such proposed person or entity, the Contractor will submit a substitute to whom the Owner have no reasonable objection.
- D. The Contractor will not change a Subcontractor, person or entity listed in Contractor's Subcontractors List without permission of the Owner.
- E. Owner reserves the right but does not assume the obligation to pay any and all subcontractors and suppliers directly if a dispute arises with the Contractor. Contractor agrees that any such payment would not be an interference with contractual relations.

5.03 SUBCONTRACTUAL RELATIONS

By appropriate contract, written where legally required for validity, the Contractor will require each Subcontractor, to the extent of the work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by the Contract Documents, assumes toward the Owner and Design Professional. Each subcontract agreement will preserve and protect the rights of the Owner and Design Professional under the Contract Documents with respect to the work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and will allow to the Subcontractor, unless specifically provided otherwise in the subcontract, the benefit of all

rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor will require each Subcontractor to enter into similar contracts with Sub-Subcontractors. The Contractor will make available to each proposed Subcontractor, prior to the execution of the subcontract, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract which may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-Subcontractors. The Contractor will include a provision providing the Owner the same rights to audit at the subcontractor level in all of its subcontractor agreements executed to effect project completion.

PART 6 – CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.01 OWNER’S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

- A. The Owner reserves the right to perform construction or operations related to the Project with the Owner’s own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation.
- B. When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term “Contractor” in the Contract Documents in each case will mean the Contractor who executes each separate Owner-Contractor contract.
- C. The Contractor, with the Owner’s assistance, will coordinate each separate contractor with the Work of the Contractor, who will cooperate with them. The Owner will provide for the coordination of the Owner’s own forces with the Work of the Contractor, who will cooperate with them. The Contractor will coordinate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor will make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules will then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

6.02 MUTUAL RESPONSIBILITY

- A. The Contractor will afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities and will connect and coordinate the contractors’ construction and operations with theirs as required by the Contract Documents.
- B. If any part of the Contractor’s Work depends, for proper execution or operation, upon the Work or any applicable portion thereof, of any other separate Contractor, the Owner will give the Contractor written notice of the date when the other contractor will have completed its construction or any applicable portion thereof and the Contractor will have 15 days from the date so specified within which to inspect the other contractor’s construction or any applicable portion thereof and to accept said construction or to reject in a written statement to the Owner reciting all discrepancies or defects which affect Contractor’s work and, therefore, must be remedied. Upon receipt of such statement, the Design Professional will see that necessary corrections

are made and will notify the Contractor when such corrective work is to be complete. The Contractor will have 15 days from the date so specified within which to inspect and report again, in order to determine that discrepancies or defects have been corrected.

1. Failure of the Contractor to inspect and report, as set forth above, will constitute an acceptance of the other contractor's construction or any applicable portion thereof as fit and proper to receive Contractor's Work, except as to latent defects which may develop in the separate contractor's construction or any applicable portion thereof after the execution of the Contractor's work.
 2. Upon completion of the other contractor's construction or any applicable portion thereof, the area will be turned over to the Contractor.
- C. Costs caused by delays or defective construction will be borne by the party responsible therefore.
- D. The Contractor will promptly remedy damage wrongfully caused by the Contractor to completed or partially completed construction or to property of the Owner or separate contractors as provided in Subparagraph 10.02 E.
- E. Should the Contractor cause damage to the work or property of any separate contractor on the Project, the Contractor will, upon due notice by the Owner, settle with such other contractor by contract if other contractor will so settle. If such separate contractor sues the Owner on account of any damage alleged to have been so sustained, the Owner will notify the Contractor who will defend such proceedings with the cooperation of the Owner and, if any judgment against the Owner arises therefrom, the Contractor will pay or satisfy same to the extent caused by the fault of the Contractor and will reimburse the Owner for all reasonable attorneys' fees and court costs which the Owner has incurred.
- F. The Owner and each separate contractor will have the same responsibilities for cutting and patching as are described for the Contractor in Paragraph 3.14.

6.03 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish as described in Paragraph 3.15, the Owner may clean up and allocate the cost among those responsible as the Owner, in its sole discretion, determines to be just.

PART 7 – CHANGES IN THE WORK

7.01 CHANGES

- A. Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, only by Change Order, Supplemental Agreement, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Part and elsewhere in the Contract Documents.
1. Any Claim for payment for changes in the Work that is not covered by written Change Order will be rejected by the Owner. The Contractor, by submitting the Bid, acknowledges and agrees that the Contractor will not be entitled to

payment for changes in the Work unless such Work is specifically authorized in writing by the Owner in advance. The terms of this Part may not be waived by the Owner unless such waiver is in writing and makes specific reference to this Part.

- B. A Change Order will be based upon contract among the Owner and Contractor. A Construction Change Directive requires a contract by the Owner and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Owner alone.
- C. Changes in the Work will be performed under applicable provisions of the Contract Documents, and the Contractor will proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.
- D. If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are so changed in a proposed Change Order or Construction Change Directive that application of such unit prices to quantities of Work proposed will cause substantial unfairness to the Owner or Contractor, the applicable unit prices will be adjusted.
- E. ALTERATION OF WORK AND QUANTITIES.
 - 1. The Owner reserves and will have the right to make such alterations in the Work as may be necessary or desirable to complete the Work originally intended in an acceptable manner. Unless otherwise specified herein, the Owner will be and is hereby authorized to make such alterations in the Work as may increase or decrease the originally awarded Contract Work, provided that the aggregate of such alterations does not change the total Contract cost or the total cost of any major Contract item by more than 25% (total cost being based on the unit prices and estimated quantities in the awarded Contract). Alterations that do not exceed the 25% limitation will not invalidate the Contract nor release the Surety, and the Contractor agrees to accept payment for such alterations as if the altered Work had been a part of the original Contract. These alterations which are for Work within the general scope of the Contract will be covered by "Change Orders" issued by the Owner. Change Orders for altered Work may include extensions of Contract Time where, in the Design Professional's opinion, such extensions are commensurate with the amount and difficulty of added Work.
 - 2. Should the aggregate amount of altered Work exceed the 25% limitation specified above, such excess altered Work will be covered by Supplemental Agreement. If the Owner and the Contractor are unable to agree on a unit adjustment for any Contract item that requires a Supplemental Agreement, the Owner reserves the right to terminate the Contract with respect to the item and make other arrangements for its completion.

7.02 CHANGE ORDERS

- A. A Change Order is a written instrument prepared by the Owner and signed by the Owner, Contractor and Design Professional, stating their agreement upon all of the following:

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1. a change in the Work;
 2. the amount of the adjustment in the Contract Sum, if any;
 3. the extent of the adjustment in the Contract Time, if any; and
 4. changes to the terms and conditions of this Contract including the W/MBE or DBE percentage, if any.
- B. Methods used in determining adjustments to the Contract Sum will include those listed in Paragraph 7.03 B.1.
- C. Supplemental Agreement. A written agreement between the Contractor and the Owner covering (1) work that would increase or decrease the total amount of the awarded Contract, or any major Contract item, by more than 25%, such increased or decreased Work being within the scope of the originally awarded Contract; or (2) Work that is not within the scope of the originally awarded Contract.

7.03 CONSTRUCTION CHANGE DIRECTIVES

- A. A Construction Change Directive is a written order prepared by the Owner or Design Professional and signed by the Owner, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum, Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.
- B. A Construction Change Directive will be used in order to expedite the Work and avoid or minimize delays in the Work which may affect the Contract Sum or Contract Time. When determined by the Owner to be in the Owner's best interest, the Owner may, with or without the Contractor's agreement, direct or order the Contractor to proceed with changes in the Work by the issuance of a Construction Change Directive.
1. If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment will be based on one of the following methods:
 - a. Mutual acceptance of a lump sum, properly itemized and supported by sufficient substantiating data to permit evaluation;
 - b. By unit prices stated in the Contract Documents or otherwise mutually agreed upon;
 - c. By the cost estimated method as described in Paragraph 7.03 C., plus the accepted percentage, if applicable. The Contractor's estimate will become a fixed price which will not be changed by any variation in the actual cost of executing the Work covered by the change;
 - d. Cost to be determined in a manner agreed upon by the parties, plus, if applicable, percentage; or
 - e. As provided in Paragraph 7.03 F., by actual cost determined after the Work covered by the change is completed, plus, if applicable, percentage.

2. As used in this Paragraph 7.03, Construction Change Directive's "cost" will mean the estimated or actual net increase in cost to the Contractor or Subcontractor for performing the Work covered by the change, including actual payments for materials, equipment rentals, expendable items, wages and associated benefits to workers and to supervisors employed full time at the site where the Work is performed, insurance, bonds, and other provable direct costs, but not including any administrative, accounting or expediting costs, or other indirect or overhead costs, or any wages or benefits of supervisory personnel not assigned full time to the site, or any amount for profit or fee to the Contractor, Subcontractor, or Sub-Subcontractor. Rates for the Contractor and Subcontractor owned equipment will not exceed the rates listed in the Associated Equipment Distributors rental rate book as adjusted to the regional area of the Work under this Contract.
 3. "Percentage" will mean an amount to be added to the cost for overhead and profit and any other expense which is not included in the cost of the Work covered by the change, as defined above. The maximum percentage for total overhead and profit and any other expense which is not included in the cost of the Work will be as follows:
 - a. For the Contractor, 15% of any net increase of costs of any Work performed by the Contractor's own forces on-site only.
 - b. For the Subcontractor, 10% of any net increase of cost of any Work performed by the Subcontractor's own forces on-site only, plus 5% of any net increase in the cost of the Work for the Contractor on-site only.
 - c. Per the Contract negotiations and as noted in the exhibit(s).
 4. When in the reasonable judgment of the Owner a series of Construction Change Directives or Change Orders affect a single change, the percentage will be calculated on the cumulative net increase in cost, if any.
 5. Overhead will include the following:
 - a. Supervision wages, timekeepers, watchmen and clerks, hand tools, incidentals, general office expense, and all other expenses not included in "cost."
- C. Upon request of the Owner, the Contractor will, without cost to the Owner, submit to the Owner, in such form as the Owner may require an accurate written estimate of the cost of any proposed extra work or change. The estimate will indicate the quantity and unit cost of each item of materials, and the number of hours of work and hourly rate for each class of labor, as well as the description and amounts of all other costs chargeable under the terms of this Part. Unit labor costs for the installation of each item of materials will be shown if required by the Owner. The Contractor will promptly revise and resubmit such estimate if the Owner determines that it is not in compliance with the requirements of this Part, or that it contains errors of fact or mathematical errors.
1. If required by the Owner, in order to establish the exact cost of new Work added or of previously required Work omitted, the Contractor will obtain and furnish to the Owner bona fide proposals from recognized suppliers for furnishing any material included in such Work. Such estimates will be furnished

promptly so as to occasion no delay in the Work and will be furnished at the Contractor's expense. The Contractor will state in the estimate any extension of time required for the completion of the Work if the change or extra work is ordered.

- D. Upon receipt of a Construction Change Directive, the Contractor will promptly proceed with the change in the Work involved and advise the Owner of the Contractor's agreement or disagreement with the method provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum and/or Contract Time.
- E. A Construction Change Directive signed by the Contractor indicates the agreement of the Contractor therewith, including the adjustment in Contract Sum and/or Contract Time or the method for determining them. Such agreement will be effective immediately and will be subsequently recorded in/as a Change Order.
- F. If the Contractor does not respond promptly or disagrees with the method for adjustment of the Contract Sum, the method and the adjustment will be determined by the Owner on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, a percentage for overhead and profit. In such case, and also under Paragraph 7.03 B.1.(e), the Contractor will keep and present, in such form as the Owner may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Subparagraph will be limited to the following:
 - 1. Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
 - 2. Costs of materials, supplies and equipment, including costs of transportation, whether incorporated or consumed;
 - 3. Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others; and
 - 4. Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work.
- G. The amount of credit to be allowed by the Contractor to the Owner for a deletion or change which results in a net decrease in the Contract Sum will be actual net cost as confirmed by the Owner. When both additions and credits covering related Work or substitutions are involved in a change, the percentage for overhead and profit will be figured on the basis of net increase, if any, with respect to that change.
- H. If the Owner and Contractor do not agree with the adjustment in Contract Time or the method for determining it, the adjustment or the method will be referred to the Design Professional for determination.
- I. When the Owner and Contractor agree with the determination made by the Design Professional concerning the adjustments in the Contract Sum and/or Contract Time, or otherwise reach agreement upon the adjustments, such agreement will be effective immediately and will be subsequently recorded in preparation and execution of an appropriate Change Order.

7.04 MINOR CHANGES IN THE WORK

The Owner will have authority to order minor changes in the Work not involving adjustment to the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order and will be binding on the Owner and Contractor. The Contractor will carry out such written orders promptly.

PART 8 – TIME

8.01 DEFINITIONS

- A. Unless otherwise provided, the Contract Time(s) is the period of time allotted in the Contract Documents for Substantial Completion of the Work or designated portion thereof as defined in Paragraph 8.01 C., including adjustments thereto.
- B. The date of commencement of the Work is the date established in a written notice to proceed. Work under this Contract will not commence until the Owner has issued a written notice to proceed. Notwithstanding the previous sentence, preliminary work such as procuring Insurance Policy Endorsements, Certificates of Insurance and Payment and Performance Bonds can proceed after the Contract is signed and prior to the Notice to Proceed. The Contractor will begin the work to be performed under the Contract within ten days of the date set by the Owner in a written notice to proceed but, in any event, the Contractor will notify the Owner at least 48 hours in advance of the time actual construction operations will begin. The date will not be postponed by the failure to act of the Contractor or of persons or entities for whom the Contractor is responsible.
- C. The date of Substantial Completion is the date certified by the Owner in accordance with Paragraph 9.07.
- D. The term “day” as used in the Contract Documents will mean calendar day unless otherwise specifically defined.
- E. The Contractor’s plea that insufficient Contract Time was specified will not be a valid reason for extension of Contract Time. No extension of Contract Time for completion will be granted.

8.02 PROGRESS AND COMPLETION

- A. Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Contract the Contractor confirms that the Contract Time is a reasonable period for performing the Work. In the event the Contractor fails to promptly complete the Work herein within the Contract Time(s) provided, liquidated damages will accrue in the amount(s) and manner specified in the Contract.
- B. The Contractor will furnish sufficient forces, construction plant and equipment, and will work such hours, including night shifts and other overtime operations, as may be necessary to insure prosecution of the Work in accordance with the Construction Schedule. Contractor will take such steps as may be necessary or as may be directed by the Owner to improve Contractor’s progress by increasing the number of shifts,

overtime operations, days of work, and amount of construction plant, as may be required, at no additional cost to the Owner.

- C. Maintenance of Schedule: The Contractor will prosecute the Work with sufficient forces, materials, and equipment to maintain progress in accordance with the Construction Schedule. Should the Work in whole or in part fall behind the Construction Schedule, or should the progress of the Work appear to the Owner to be inadequate to assure completion on the completion date(s) specified in the Contract, the Contractor will, upon written notice from the Owner, take appropriate steps within seven days of such notice to put the Work back on schedule and meet the specified completion date(s).
1. Should the Contractor fail to institute appropriate measures within seven days, or should the measures taken fail to put the Work back on schedule within 14 days of such notice, the Owner may, but will not be required to, supplement the Contractor's forces, materials and/or equipment with other forces, materials and/or equipment. The cost of such other forces, materials and/or equipment will be deducted by the Owner from sums otherwise owing to the Contractor. The Owner's use of such supplemental forces, materials and/or equipment will not excuse the Contractor from performing all of its obligations under the Contract Documents or relieve the Contractor from liquidated damages. The Contractor will coordinate and work together with such supplemental forces, materials and/or equipment.
 2. Failure of the Contractor to comply with the requirements under this Paragraph will be grounds for determination that the Contractor is not prosecuting the Work with such diligence as will insure completion within the time(s) specified and such failure constitutes a material breach of the Contract Documents. Upon such determination, the Owner may terminate the Contractor's right to proceed with the Work, or any separate part thereof, in accordance with Part 13, TERMINATION OR SUSPENSION OF THE CONTRACT.
- D. The Contractor will proceed expeditiously with adequate forces and will achieve Substantial Completion within the Contract Time(s).

8.03 DELAYS AND EXTENSIONS OF TIME

- A. No claim for damages or any claim other than for an extension of time will be made or asserted against the Owner by reason of any Delay, whether such Delay is related to (i) late or early completion, (ii) delay in the commencement, prosecution or completion of the Work, (iii) hindrance or obstruction in the performance of the Work, (iv) loss of productivity, or (v) other similar claims (collectively "Delay"), whether or not such Delay is foreseeable, unless the Delay is caused by acts of the Owner constituting fraud or active interference with the Contractor's performance of the Work, and only to the extent such acts continue after Contractor furnishes the Owner with notice of such fraud or active interference. The Contractor will not be entitled to an increase in the Contract Sum or payment or compensation of any kind from the Owner for direct, indirect, consequential, impact or other costs, expenses or damages, including but not limited to: damages related to loss of business, loss of opportunity, impact damages, loss of financing, principal office overhead and expenses, loss of profits, loss of bonding

capacity and loss of reputation; costs of acceleration or inefficiency, arising because of Delay, disruption, interference or hindrance from any cause whatsoever; provided, however, that this provision will not preclude recovery of direct and actual damages by the Contractor for hindrances or delays due solely to fraud or active interference on the part of the Owner. Otherwise, the Contractor may be entitled only to extensions of the Contract Time as the sole and exclusive remedy for such resulting delay, in accordance with and to the extent specifically provided above. The Owner's exercise of any of its rights or remedies under the Contract Documents (including but not limited to, order changes in the Work, directing suspension, rescheduling or correction of the Work), regardless of the extent or frequency of Owner's exercise of such rights or remedies, shall not be construed as active interference with the Contractor's performance of the Work.

- B. Claims relating to time will be made in accordance with applicable provisions of Paragraph 4.03. Contractor's plea that insufficient time was specified will not be a valid reason for extension of the Contract time. Contract time will not be extended for a weather related delay except as provided in Paragraph 4.03.
 - 1. Permitting the Contractor to continue and finish the Work or any part of it after the time fixed for its completion, or after that date to which the time for completion may have been extended, will in no way operate as a waiver on the part of the Owner of any of its rights under the Contract.

PART 9 – PAYMENTS AND COMPLETION

9.01 CONTRACT SUM

The Contract Sum is stated in the Contract and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

9.02 SCHEDULE OF VALUES

- A. Before submitting the first Application for Payment, the Contractor will submit to the Owner and the Design Professional a Schedule of Values. Refer to Section 01370 – SCHEDULE OF VALUES for additional information.
 - 1. The Schedule of Values will be approved by the Owner and the Design Professional prior to submitting the initial Application for Payment.
 - 2. The Schedule of Values will be in a form as required by the Owner and the Design Professional to adequately establish costs of the Work.
 - 3. This Schedule of Values will be prepared in such a form and supported by such data to substantiate its accuracy in reflecting the above breakdown for administrative and payment purposes as the Owner or Design Professional may require and will be revised later if found by the Design Professional to be inaccurate. If the Contract involves multiple projects and/or airports, project and/or airport sub-totals will be required.

4. This Schedule of Values, unless objected to by either the Owner or the Design Professional, will be used only as a basis for the Contractor's Application for Payment.
5. The Schedule of Values must be sent electronically in Microsoft Excel format along with the Application for Payment.
6. Initial Payment Application: The principal administrative actions and submittals which will precede or coincide with submittal of the Contractor's first Application for Payment are as follows, but not necessarily by way of limitation:
 - a. Listing of Subcontractors and principal suppliers and fabricators.
 - b. Schedule of Values.
 - c. Initial recognized CPM (or Bar Chart) Construction Schedule.
 - d. Schedule of submittals.
 - e. Stored Material spreadsheet and verification form.
 - f. Subcontractor signed agreements.
 - g. E-Verify compliance plans for Contractor and subcontractors per Article 34, E-Verify Requirement. Subsequent applications for payment will include E-Verify compliance plans for subcontractors not included with the initial application for payment.
 - h. E-Verify Certifications for subcontractors. Subsequent applications for payment will include E-Verify Certifications for subcontractors not included with the initial application for payment.
 - i. E-Verify reports for any new employees hired by the Contractor and subcontractors since the start of the Contract Term. Subsequent applications for payment will include E-Verify reports for any new employees hired by the Contractor and subcontractors not included with the initial application for payment. E-Verify reports will only be required when the Contractor and subcontractors hire new employees and will not be required if the Contractor and subcontractors do not hire any new employees.

9.03 APPLICATIONS FOR PAYMENT

- A. The Contractor will, as a condition precedent to the right to receive any monthly payment, submit to the Owner, an Application for Payment, sample attached herein and identified as Exhibit A – Aviation Authority Application for Payment.
 1. Scope of Payment: For performance of this Contract, the Owner will make payments in U.S. Dollars to the Contractor in accordance with the Owner approved Schedule of Values, which will be based on the Contract Sum amount established by the Contractor in Section 00300 – BID FORM. It is understood that the Contract Sum amount to be paid to the Contractor will be totally based on the said amount contained in Section 00300 – BID FORM and made a part of this Contract for the Work actually complete.

- a. The Contractor will receive and accept compensation provided for in the Contract as full payment for furnishing all materials, for performing all Work under the Contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the Work or the prosecution thereof, subject to the provisions of Paragraph 11.02 G., herein.
2. With the exception of the month of September, all notarized Applications for Payment will be submitted to the Owner by the third of each month. In the event that the third of the month falls on a Saturday, Sunday, or non-working day, Applications for Payment are due the prior business day. Payment will be made on the twenty fifth of the month. If the twenty fifth of the subsequent month falls on a Saturday, Sunday or non-working day, then payment will be made on the next business day. Applications for Payment submitted more than 25 days prior to the third of the month will be rejected and returned. Due to the end of fiscal year financial closeout, September Applications for Payment will be required to be submitted by September 12th, and in the event that the 12th falls on a Saturday, Sunday, or non-working day, Applications for Payment are due the next business day and a subsequent payment will be made the second Friday of October. The Owner requires the Contractor to have a pencil copy review and approval of all Applications for Payment with the Owner's Construction Project Manager prior to their submittals.
3. The Contractor will submit to the Owner via the Records Management Department, two executed and notarized originals and two copies of an itemized Application for Payment prepared on a form that is on the CD supplied by the Owner at the pre-construction meeting and based on the agreed Schedule of Values and an electronic copy (pdf) of all submitted documents, supported by such data substantiating the Contractor's right to payment as the Owner or Design Professional may require and reflecting retainage for all Work performed through the last day of each month or agreed upon date. The Application for Payment will be certified by a person duly authorized in writing to execute contractual instruments on behalf of the Contractor.
 - a. Each Application for Payment will include the Contractor's signed and notarized statement, based on the agreed Schedule of Values of the value of the Work. The total payment for each month will be broken down according to the specific items from the Schedule of Values that have been completed/delivered for which payment is requested. All such payments will be commensurate with the actual progress of the Work which must be substantiated and itemized in the Monthly Construction Schedule. Payment will not be made for any Work which cannot be so substantiated. Refer to Section 01315 – SCHEDULES, PHASING.
 - b. All progress payments will be subject to correction following the discovery of an error, misrepresentation, or unallowable cost in any previous Application for Payment. Approval of such erroneous Application for Payment will not in any respect be taken as an admission by the Owner of the amount of Work completed, or the release of the Contractor from any of its responsibility under the Contract.

4. The Contractor's design and construction schedule will be updated on a monthly basis and a copy thereof submitted with each of the Contractor's Applications for Payment. This schedule update shall include a thirty (30) day "look-ahead schedule", projected variances and calculation of the number of days difference between the as-built critical path and the Project Schedule critical path. Contractor shall, with each Application for Payment, provide completed monthly updated information for the previous month on the Project Schedule and updated information on manpower indicated as-built and as-planned conditions. The updated information in the Project Schedule shall not modify any milestone dates in the Project Schedule that Owner has previously approved. The Owner will not approve for payment an Application for Payment not containing the Contractor's submission of an approved monthly design and construction schedule update. Refer to General Requirements Section 1315 – SCHEDULES, PHASING.
5. In addition to the schedule updates required above, with each Application for Payment, Contractor shall, in addition to documentation required under the Contract, submit the following information which is required to process any Application for Payment including a monthly status report concisely but completely describing in narrative form, the current status of the Work including, without limitation:
 - a. A review of actual progress during the month in comparison to the Project Schedule and, if actual progress is behind schedule, discussion of any "work around" or "catch up plan" that Contractor has employed or will employ to recover the original Project Schedule;
 - b. A concise statement of the outlook for meeting future Project Schedule dates, and the reasons for any change in outlook from a previous report;
 - c. A concise statement of significant progress on major items of Work during the report period, with progress photographs as necessary to document the current status of the Work;
 - d. A review of any significant technical problems encountered during the pay application period and the resolution or plan for resolution of the problems;
 - e. An explanation of any corrective action taken or proposed;
 - f. A complete review of the status of Change Orders, including a review of any changes in the critical path for the Project Schedule which result from Change Orders approved by Owner during the month, as well as a review of the schedule impact of Change Order requests then pending;
 - g. A summary of any claims anticipated by the Contractor with respect to the Work, including the anticipated cost and schedule impacts of any such claims;
 - h. A cumulative summary of the number of days of, and the extent to which the progress of the Work was delayed by, any of the causes for which Contractor could be entitled to an extensions of the Contract Time; and
 - i. An updated material purchase log.

6. Further, the Design Professional will not recommend for payment by the Owner an Application for Payment without satisfactory documentation of material and services purchases scheduled to have been issued during the period of time covered by the Application for Payment. Copies of issued Purchase Orders and Contract (subcontracts) will be considered satisfactory documentation. Refer to Section 01315 – SCHEDULES, PHASING.

- a. Entries will match current data of the Schedule of Values and Construction Schedule. Listing will include amounts of fully executed Change Orders per project approved by the Owner prior to the last day of the “period of work” covered by the Application for Payment. Incomplete Applications for Payment will be returned by the Owner without action.
- b. For Contracts with a prescribed DBE or W/MBE goal or participation, the Contractor will submit via email to AppforPayment@TampaAirport.com with each Application for Payment the completed Commitment Form showing the detailed accounting for all DBE or W/MBE participation as applicable. Contractor will submit one (1) electronic format.

This accounting will include:

- (1) the names and addresses of DBE or W/MBE firms that have participated on the Contract;
- (2) a description of the Work each named DBE or W/MBE firm has performed; and
- (3) the value of Work performed by each named DBE or W/MBE firm;
- (4) addition or replacement of approved DBE or W/MBE firms; and
- (5) at 50% completion – a plan of action properly reflecting anticipated DBE or W/MBE achievement of commitment.

7. The Contractor will submit with each Application for Payment a detailed accounting of the value of Work performed to date by their Subcontractors. Submission detail will be organized identifying the supporting information.

This accounting will include:

- a. the names and addresses of their Subcontractors that have participated on the Contract;
- b. a description of the Work each of their Subcontractors has performed;
- c. the value of Work performed by each of their Subcontractors;
- d. fully signed Subcontractor agreements;
- e. copies of statutory Waivers of Right to Claim against the Payment Bond given by each subcontractor, supplier, and sub –

contractor and supplier for sub-contractor for the period up to the date of the Application for Payment; and

- f. equipment purchased for and paid by the Owner must be identified when invoiced so that an asset tag can be attached to that equipment. A detail listing in Excel format must be submitted with the invoice when equipment is purchased. Final accounting for all assets will be performed at the completion of the project. Any assets unaccounted for will be reimbursed to the Owner.
8. The Design Professional will not recommend for payment by the Owner an Application for Payment without the Contractor's submission of the detailed DBE or W/MBE accounting.
9. The Design Professional will approve or disapprove the Contractor's Application for Payment within seven days after the receipt thereof and, upon approval, promptly issue to the Owner an Application for Payment recommending payment to the Contractor. Upon receipt by the Owner of the approved Application for Payment, the Owner will make payment according to the Owner's standard payment procedures following the month in which the Application for Payment was submitted. The Contractor agrees to pay each Subcontractor for satisfactory performance of its subcontract within 10 days after the Contractor's receipt of payment from the Owner. The Contractor agrees further to release retainage payments to each Subcontractor within 10 days upon receipt from Owner and after the Subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written notice to the Owner. This clause applies to both DBE or W/MBE and non-DBE or W/MBE subcontractors.
10. The Owner will pay to Contractor 95% of all Applications for Payment submitted by Contractor. The Applications for Payment will represent the actual value, based on the Contract amount, of the Work satisfactorily performed on the Schedule of Values, less the aggregate of all previous payments, and will reflect a retainage of 5% of the total amount payable for Work satisfactorily completed to date. Upon written request from the Contractor, retainage may be released to the Contractor, in the sole discretion of the Owner, for the Work or designated portions thereof upon reaching Substantial Completion, as defined in Section 9.07, Substantial Completion. Any amounts that are the subject of a good-faith dispute, the subject of a claim brought pursuant to F.S. § 255.05, or are otherwise the subject of a claim or demand, will not be released. Retainage will not be withheld on design and construction administration fees, if any.

The Contractor is required to pay all subcontractors for satisfactory performance of their contracts no later than 10 days after the Contractor has received a partial payment. The Contractor is required to fully pay retainage to the subcontractor within 10 days after the subcontractor's work is satisfactorily completed. A subcontractor's

work is satisfactorily completed when (1) all the tasks called for in the subcontract have been accomplished and documented as required by the Owner, (2) the Work or a designated portion of the Work which the subcontractor worked on has reached Substantial Completion (incremental acceptance) and (3) no good-faith disputes or claims involving the subcontractor have manifested.

Notwithstanding the foregoing, at the Owner's sole option, when at least 95% of the Work has been completed, the Engineer shall, at the Owner's discretion and with the consent of the surety, prepare estimates of both the Contract value and the cost of the remaining Work to be done. Subject to Fla. Stat. Section 255.078 (if applicable), the Owner may retain an amount not less than twice the Contract value or estimated cost, whichever is greater, of the Work remaining to be done. Upon written request from the Contractor, the remainder (if any) may be released to the Contractor.

Notwithstanding the foregoing, at the Contractor's option, the Contractor may request that the Owner deposit the retainage into an escrow account. The Owner's deposit of retainage into an escrow account is subject to the following conditions:

- a. The Contractor shall bear all expenses of establishing and maintaining an escrow account and escrow agreement acceptable to the Owner.
- b. The Contractor shall deposit to and maintain in such escrow only those securities or bank certificates of deposit as are acceptable to the Owner and having a value not less than the retainage that would otherwise be withheld from partial payment.
- c. The Contractor shall enter into an escrow agreement satisfactory to the Owner.
- d. The Contractor shall obtain the written consent of the surety to such agreement.

11. In addition, the Owner may withhold or suspend additional payments or portions thereof to such extent as may be necessary to protect itself from loss on account of:
 - a. Work or execution thereof not performed or not in accordance with the Contract Documents.
 - b. The cost of the Work performed by the Owner, or contracted to others by the Owner, on behalf of the Contractor where said Work or the costs thereof are identified in the Contract Documents as the responsibility of the Contractor.
 - c. Whether items of Work remain to be corrected or completed following Substantial Completion or Final Acceptance.

- d. Non-compliance with the Owner's DBE or W/MBE Policy or failure to meet the prescribed DBE goal or W/MBE expectancy set forth in this Contract, or to establish a good faith effort to do so.
 - (1) Failure of the Contractor to make a good faith effort to achieve DBE goal or W/MBE expectancies may be a material breach of this Contract. The determination of whether the Contractor's efforts were made in "good faith" will be made by the Owner.
 - e. Other non-compliance with the Contract, Owner Policies or Procedures.
 - (2) Unless otherwise provided in the Contract Documents, payment will only be for Work in place.
- B. The Owner will have the right to omit or order non-performance of a portion of the Work in the best interest of the Owner.
- 1. Should the Owner omit or order non-performance of a portion of the Work, the Contract Sum will be reduced accordingly. However, the Contractor will be paid for any such work actually completed and acceptable prior to the order to omit or non-perform.
 - 2. Should the Owner omit or order non-performance of a portion of the Work, acceptable materials ordered by the Contractor or delivered to the Work prior to the date of the Owner's order will be paid for at the actual cost to the Contractor and will become the property of the Owner.
 - 3. In addition to the reimbursement hereinbefore provided, the Contractor shall be reimbursed for all actual costs incurred for the purpose of performing the omitted Contract item prior to the date of the Owner's order. Such additional costs incurred by the Contractor must be directly related to the deleted Contract item and will be supported by certified statements by the Contractor as to the nature the amount of such costs.
- C. Payments may be made on account of non-perishable materials or equipment not incorporated in the Work but delivered and suitably stored at the site, upon the following conditions being met:
- 1. The Materials have been stored or stockpiled in a manner acceptable to the Owner and Design Professional.
 - 2. The Contractor has furnished the Design Professional with satisfactory evidence that the materials and transportation costs have been paid.
 - 3. The Contractor has furnished the Design Professional with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
 - 4. The Contractor has furnished the Owner legal title (free of liens or encumbrances of any kind) to materials so stored or stockpiled.
 - 5. The Contractor has furnished to the Owner and Design Professional copies of paid invoices of all stored materials and all stored material listed in Excel format and as a hard copy and a stored material verification form. All supporting

backup must be labeled with the Schedule of Values item number and calculation of item number listed on the Schedule of Values.

6. Documentation that all material meets specification requirements.
7. The Contractor will be responsible for all loss or damage of any type to such materials or equipment and will make suitable replacement or repair as necessary at the Contractor's own expense.
8. The Contractor will be responsible for security with respect to all such stored materials and equipment.
9. The Contractor has furnished the Owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the Work.
10. Payments for material on hand for delivered material to be used in one item of Work must exceed \$3,000.00, and not scheduled to be incorporated into the work within sixty days after delivery.
11. It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials will in no way relieve the Contractor of its responsibility for furnishing and placing such materials in accordance with the requirements of the Contract Documents.
12. No partial payment will be made for stored or stockpiled living or perishable plant materials.
13. The Contractor will bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.
14. In no case will the amount of payments for materials on hand exceed the Contract Price for such materials or the Contract Price for the Contract Item in which the material is intended to be used.

Notwithstanding the forgoing, the Owner may in its sole and absolute discretion, in special circumstances approve in writing in advance the waiver or one or more of the above conditions for payment of non-perishable materials or equipment not incorporated in the Work.

- D. The Contractor warrants that title to all work covered by an Application for Payment will pass to the Owner upon receipt of payment by the Contractor. The Contractor further warrants that upon submittal of an Application for Payment, all work for which certificates for payment have been previously issued and payments received from the Owner will, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances (hereinafter referred to in this Part as liens) in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials or equipment relating to the Work.

9.04 CERTIFICATES FOR PAYMENT

- A. The Design Professional will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Design Professional determines is

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properly due, or notify the Contractor and Owner in writing of the Design Professional's reasons for withholding certification in whole or in part as provided in Subparagraph 9.05 A.

- B. The issuance of a Certificate for Payment will constitute a representation by the Design Professional to the Owner, based on the Design Professional's observations at the site and review of the data comprising the Application for Payment, that the Work has progressed to the point indicated and that, to the best of the Design Professional's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to minor deviations from the Contract Documents correctable prior to completion and to specific qualifications expressed by the Design Professional. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Design Professional has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the work, (2) reviewed construction means, methods, techniques, sequences or procedures, or (3) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.
- C. In taking action on the Contractor's Applications for Payment, the Design Professional will be entitled to rely on the accuracy and completeness of the information furnished by the Contractor and will not be deemed to represent that the Design Professional has made a detailed examination, audit or arithmetic verification of the documentation submitted in accordance with Subparagraph 9.04 B. or other supporting data, that the Design Professional has made exhaustive or continuous on-site inspection or that the Design Professional has made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits and verifications, if required by the Owner will be performed by the Owner, acting in the sole interest of the Owner.

9.05 DECISIONS TO WITHHOLD CERTIFICATION

- A. The Design Professional may decide not to certify the Application for Payment and may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Design Professional's opinion the representations to the Owner required by Subparagraph 9.04 B. cannot be made. If the Design Professional is unable to certify payment in the amount of the Application for Payment, the Design Professional will notify the Contractor and Owner as provided in Subparagraph 9.04 A. If the Contractor and Design Professional cannot agree on a revised amount, the Design Professional will promptly issue an Application for Payment for the amount for which the Design Professional is able to make such representations to the Owner. The Design Professional may also decide not to certify payment, or because of subsequently discovered evidence or subsequent observations may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Design Professional's opinion to protect the Owner from loss because of:
 - 1. defective Work not remedied;

2. third party claims filed or reasonable evidence indicating probable filing of such claims;
 3. failure of the Contractor to make payment properly to Subcontractors or for labor, materials or equipment;
 4. reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
 5. damage to the Owner or another Contractor;
 6. reasonable evidence that the Work will not be completed within the Contract Time and that the unpaid balance would not be adequate to complete the Work and to cover actual or liquidated damages for the anticipated delay;
 7. persistent failure to carry out the Work in accordance with the Contract Documents; and/or
 8. failure of the Contractor to provide satisfactory documentation of material and services purchased in accordance with the Construction Schedule.
 9. other failure of the Contractor to comply with the Contract, Owner Policies or Procedures.
- B. When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

9.06 PROGRESS PAYMENTS

- A. After the Design Professional has certified the Application for Payment, the Owner will endeavor to make payment according to the Owner's standard payment procedures. If deficiencies are found, a standard deficiency e-mail will be sent to the Contractor to resolve within 24 hours. If the deficiency is not resolved within that time, the Application will be returned.
- B. Prompt Payment Clause. The Contractor agrees to pay each subcontractor under the Contract for satisfactory performance of its contract no later than 10 days from the receipt of each payment the Contractor receives from the Owner. The Contractor agrees further to release retainage payments to each subcontractor upon receipt from Owner and within 10 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above-referenced time frame may occur only for good cause following written notice to the Owner. This clause applies to both D/W/MBE and non-D/W/MBE subcontractors.
- C. Neither the Owner nor the Design Professional will have an obligation to pay or to see to the payment of money to a Subcontractor, Sub-Subcontractor or material supplier.
- D. The payment of any Application for Payment prior to Final Acceptance of the Work by the Owner will in no way constitute an acknowledgement of the acceptance of the Work, or in any way prejudice or affect the obligation of the Contractor to repair,

correct, renew, or replace, at the Contractor's expense, any defects, imperfections or design errors or omission in the design, construction, or in the strength or quality of the equipment or materials used in or about the construction of the Work under Contract and its appurtenances, or any damage due or attributed to such defects, which defect, imperfection, or damage will have been discovered on or before the Final Acceptance of the Work. The Contractor will be liable to the Owner for failure to correct same as provided herein.

- E. An Application for Payment, a certified progress payment, or partial or entire use or occupancy of the Project by the Owner will not constitute acceptance of Work not in accordance with the Contract Documents.
- F. The Owner may deduct from the balance due the Contractor under the provisions of the Contract Documents any liquidated damages which may have accrued.
- G. Provision for assessment of liquidated damages for delay will in no manner affect the Owner's right to terminate the Contract as provided in Part 13, TERMINATION OR SUSPENSION OF THE CONTRACT or elsewhere in the Contract Documents. The Owner's exercise of the right to terminate will not release the Contractor from its obligation to pay said liquidated damages in the amounts set out in the Contract.

9.07 SUBSTANTIAL COMPLETION

- A. Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use.
- B. When the Contractor considers that the whole Work, or a portion thereof designated in the Contract Documents for separate completion, is substantially complete and the premises comply with Paragraph 3.13 A., the Contractor will submit to the Design Professional: (1) the permits and certificates referred to in Paragraph 12.05 D., and (2) the Contractor's request for inspection by the Owner and Design Professional.
 - 1. The Owner and Design Professional will then make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the inspection discloses any item which is not in accordance with the requirements of the Contract Documents, the Design Professional will then prepare and submit to the Contractor a comprehensive list of items to be completed and/or corrected. The Contractor will proceed promptly to complete and correct items on the list before issuance of the Certificate of Substantial Completion by the Owner. The Contractor will then submit a request for another inspection to determine Substantial Completion. Repeat inspections will be performed prior to issuance of the Certificate of Substantial Completion by the Owner.
 - 2. All Work items or Contract requirements which remain incomplete/unsatisfied at the Date of Substantial Completion will become part of the Final Acceptance punch list. For projects with a value under \$10 million, within 30 days after Substantial Completion, the Owner will develop the Final Acceptance punch list and will provide it to the Contractor within five days after its completion. The Contractor will be allowed a minimum of 30 days after delivery of the Final Acceptance punch list to complete the items listed on the Final Acceptance

punch list. However, for projects with a value over \$10 million, within 60 days after Substantial Completion, the Owner will develop the Final Acceptance punch list and will provide it to the Contractor within five days after its completion. The Contractor will be allowed a minimum of 30 days after delivery of the Final Acceptance punch list to complete the items listed on the Final Acceptance punch list.

3. When the Work or designated portion thereof is substantially complete, the Owner will prepare a Certificate of Substantial Completion which will establish: the date of Substantial Completion; responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work; and insurance. All Warranties required by the Contract Documents will commence on the date of Substantial Completion. The Certificate of Substantial Completion will be submitted to the Design Professional and Contractor for their written acceptance of responsibilities assigned to them in such Certificate.
- C. Upon Substantial Completion of the whole Work and upon application by the Contractor and certification by the Design Professional, the Owner will make payment, reflecting adjustment in retainage, if any, for such Work as provided in the Contract Documents.
- D. After Substantial Completion of the whole Work, the Design Professional may, at the Design Professional's discretion and with the consent of the Contractor's Surety, approve an Application for Payment from which will be retained an amount not less than 1.5 times the Contract value or 1.5 times the estimated cost, whichever is greater, of the Work remaining to be done. Remaining retainage will be released with Final Payment after Final Acceptance of the whole Work.
- E. After Substantial Completion, closeout documents as required in Section 01700, Project Closeout, can be submitted to the Owner. The Owner will provide a detailed list of the closeout documents required after receipt and acceptance of the Final Acceptance punch list.

9.08 PARTIAL OCCUPANCY OR USE

- A. The Owner or separate contractors may occupy or use any completed or partially completed portion of the Work at any stage. Such partial occupancy or use may commence whether or not the portion is substantially complete. When the Contractor considers a portion substantially complete, the Contractor will prepare and submit a list to the Design Professional as provided under Subparagraph 9.07 B.
- B. Immediately prior to such partial occupancy or use, the Owner, Contractor and Design Professional will jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.
- C. Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work will not constitute acceptance of the Work not complying with the requirements of the Contract Documents.

9.09 FINAL COMPLETION AND FINAL PAYMENT

- A. Upon receipt of written notice that inspection of the whole Work is ready for Final Acceptance, the Owner and Design Professional will promptly make such inspection and, when the Owner and Design Professional finds the Work acceptable under the Contract Documents and the Contract fully performed, the Owner will promptly issue a Certificate of Final Acceptance stating that to the best of the Owner's and Design Professional's knowledge, information and belief, and on the basis of the Owner's and Design Professional's observations and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents. The Design Professional's Certification of the Final Application for Payment will constitute a further representation that conditions listed in Paragraph 9.09 B. as precedent to the Contractor's being entitled to Final Application for Payment have been fulfilled. In the Final Certificate for Payment, the Design Professional will state the date on which the whole Work was fully complete and acceptable, which date will be the date of Final Acceptance.
- B. Neither final payment nor any remaining retained percentage will become due until the Contractor submits to the Design Professional (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be cancelled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) all final certified payrolls, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If the Contractor fails to furnish such releases or waivers as the Owner reasonably requires satisfying the Owner that there are no outstanding liens, the Owner may require the Contractor, at the Contractor's expense, to furnish a bond satisfactory to the Owner to indemnify the Owner against such liens. If such lien remains unsatisfied after payments are made, the Contractor will refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees. Upon satisfactory final acceptance of all Work required by the Contract Documents, receipt of notice of final acceptance from the Design Professional and compliance with project closeout of Section 01700 – PROJECT CLOSEOUT, the Contractor will make Application for Final Payment in the same format as progress payments.
- C. Acceptance of final payment by the Contractor, a Subcontractor or material supplier will constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of Final Application for Payment. Such waivers will be in addition to the waiver described in Subparagraph 4.03 D.
- D. All closeout documentation shall be furnished at least seven days before submission of Application for Final Payment.

- E. The Contractor is required to provide all information and supporting documentation required to enable the Owner to receive any applicable state or federal grants.

PART 10 – PROTECTION OF PERSONS AND PROPERTY

10.01 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

10.02 SAFETY OF PERSONS AND PROPERTY

- A. The Contractor will take reasonable precautions for safety of, and will provide reasonable protection to prevent damage, injury or loss to;
 - 1. employees performing Work and other persons who may be affected thereby;
 - 2. the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, or under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-Subcontractors;
 - 3. other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and
 - 4. any other property of the Owner, or construction by separate contractors.
- B. The Contractor will give notices and comply with applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.
- C. The Contractor will erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying Owners and users of adjacent sites and utilities.
- D. When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor will exercise utmost care and carry on such activities under supervision of properly qualified personnel.
- E. The Contractor will promptly remedy damage and loss to property referred to in Paragraphs 10.02 A.2. and 10.02 A.3. caused in whole or in part by the Contractor, a Subcontractor, a Sub-Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable, except damage or loss solely attributable to acts or omissions of the Owner or Design Professional or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Paragraph 3.18.
- F. The Contractor will designate a competent person of the Contractor's organization at the site whose duty will be the prevention of accidents. This person will be the

Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Design Professional.

- G. The Contractor will not load or permit any part of the construction or site to be loaded so as to endanger its safety.
- H. The Contractor will comply with the provisions of the Occupational Safety and Health Act of 1970, 84 Stat. 1190, 29 U.S.C. 611 et seq. (as amended), and applicable regulations and requirements under said Act. The Contractor will maintain an accurate record of all accidents causing death, traumatic injury, occupational disease, or damage to property, materials, supplies and equipment incidental to Work performed under this Contract.
- I. The Contractor will be responsible for the preservation of all public and private property and will protect carefully from disturbance or damage all land monuments and property markers until the Design Professional has witnessed or otherwise referenced their location and will not move them until directed.
- J. The Contractor will be responsible for all damage or injury to property of any character during the prosecution of the Work resulting from any act, omission, neglect, or misconduct in the Contractor's manner or method of executing the Work, or at any time due to defective Work or materials, and said responsibility will not be released until the Project will have been completed and accepted.
- K. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work, or in consequence of the non-execution thereof, by the Contractor, Contractor will restore, such property, at the Contractor's own expense, to a condition similar or equal to that existing before such damage or injury was done, by repairing, or otherwise restoring, as may be directed, or Contractor will make good such damage or injury in an acceptable manner.
- L. Work that is to remain in place which is damaged or defaced by reason of Work performed under this Contract will be restored at no additional cost to the Owner.
- M. Until the Design Professional's Final Written Acceptance of the whole Work, excepting only those portions of the Work accepted in accordance with Paragraph 9.07 B. herein, the Contractor will have the charge and care thereof and will take every precaution against injury or damage to any part due to the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the Work. The Contractor will rebuild, repair, restore, and make good all injuries or damages to any portion of the Work occasioned by any of the above causes before Final Completion and will bear the expense thereof.
- N. If the Work is suspended for any cause whatsoever, the Contractor will be responsible for the Work during such suspension and will take such precautions necessary to prevent damage to the Work. The Contractor will provide for normal drainage and will erect necessary temporary structures, signs, or other facilities. If the Owner orders the suspension of the Work, additional compensation or extension of time may be claimed by the Contractor. During such period of suspension of Work, the Contractor will properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seedlings, and sod furnished under the

Contract, and will take adequate precautions to protect new tree growth and other important vegetative growth against injury.

- O. The Contractor will be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The Contractor will be responsible to the Owner for the acts and omissions of all Contractor's employees and Subcontractors, their agents and employees, and all other persons performing any of the Work under a contract with the Contractor.

10.03 EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor will act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency will be determined as provided in Paragraph 4.03 and Part 7, CHANGES IN THE WORK.

PART 11 – UNCOVERING AND CORRECTION OF WORK

11.01 UNCOVERING OF WORK

- A. If a portion of the Work is covered contrary to the Owner's/Design Professional's request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Owner/Design Professional, be uncovered for the Owner's/Design Professional's observation and be replaced at the Contractor's expense without change in the Contract Time.
- B. If a portion of the Work has been covered which the Design Professional has not specifically requested to observe prior to its being covered, the Owner/Design Professional may request to see such Work and it will be uncovered by the Contractor. If such work is in accordance with the Contract Documents, costs of uncovering and replacement will, by appropriate Change Order, be charged to the Owner. If such Work is not in accordance with the Contract Documents, the Contractor will pay such costs unless the condition was caused by the Owner or a separate contractor in which event the Owner will be responsible for payment of such costs.

11.02 CORRECTION OF WORK

- A. The Contractor will promptly correct Work rejected by the Owner/Design Professional for failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor will bear costs of correcting such rejected Work, including additional testing and inspections and compensation for the Design Professional's services and expenses made necessary thereby.
- B. If, within one year after the Date of Substantial Completion of the whole Work or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor will correct it promptly after receipt of a written notice from the Owner to do so. This obligation will survive termination of the Contract. The Owner will give such notice promptly after discovery of the condition.

- C. The Contractor will remove from the site portions of the Work which are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.
- D. If the Contractor fails to correct non-conforming work within a reasonable time, the Owner may correct it in accordance with Paragraph 2.04. If the Contractor does not proceed with correction of such non-conforming work within a reasonable time fixed by written notice from the Owner or Design Professional, the Owner may remove it and store the salvageable materials or equipment at the Contractor's expense. If the Contractor does not pay costs of such removal and storage within ten days after written notice, the Owner may, upon ten additional days' written notice, sell such materials and equipment at auction or at private sale and will account for the proceeds thereof, after deducting costs and damages that should have been borne by the Contractor, including compensation for the Owner's or Design Professional's services and expenses made necessary thereby. If such proceeds of sale do not cover costs which the Contractor should have borne, the Contract Sum will be reduced by the deficiency. If payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor will pay the difference to the Owner.
- E. The Contractor will bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate Contractors caused by the contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.
- F. Nothing contained in Paragraph 11.02 will be construed to establish a period of limitation with respect to other obligations which the Contractor might have under the Contract Documents. Establishment of the time period of one year as described in Subparagraph 11.02 B relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.
- G. Upon completion of the whole Work, the Owner and the Design Professional will expeditiously make final inspection in accordance with Section 01700 – PROJECT CLOSEOUT, and will notify the Contractor of Final Acceptance. Such Final Acceptance, however, will not preclude or stop the Owner from correcting any measurement, estimate, or certificate made before or after completion of the whole Work, nor will the Owner be precluded or stopped from recovering from the Contractor or Contractor's Surety, or both, such overpayment as may be sustained, by failure on the part of the Contractor to fulfill Contractor's obligations under the Contract. A waiver on the part of the Owner of any breach of any part of the Contract will not be held to be a waiver of any other or subsequent breach.
- H. The Contractor, without prejudice to the terms of the Contract, will be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards to the Owner's rights under any warranty or guaranty.

11.03 ACCEPTANCE OF NON-CONFORMING WORK

If the Owner prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the

Contract Sum will be reduced as appropriate as determined by the Owner in its reasonable discretion. Such adjustment will be effected whether or not Final Payment has been made.

PART 12 – MISCELLANEOUS PROVISIONS

12.01 GOVERNING LAW

The Contract will be governed by the law of the State of Florida. Venue for any action, arising from or related to the Contract, will be in the Florida State Circuit Court in and for the 13th Circuit, Hillsborough County, such court having sole and exclusive jurisdiction. Confidential mediation with the mediator selected by the Owner shall be a condition precedent to litigation.

12.02 SUCCESSORS AND ASSIGNS

- A. The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to partners, successors, assigns and legal representatives of such other party in respect to covenants, contracts and obligations contained in the Contract Documents. Except as hereinafter provided, the Contractor will not assign or sublet this Contract in whole or in part without the written consent of the Owner, nor will the Contractor assign any monies due or to become due to Contractor hereunder without the previous written consent of the Owner. If the Contractor attempts to make such assignment without such consent, the Contractor will nevertheless remain legally responsible for all obligations under the Contract.
- B. The Owner reserves the right to transfer its interests herein to any other governmental body created or authorized by law to operate the Airport.

12.03 WRITTEN NOTICE

Written notice will be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to an officer of the corporation for which it was intended, on the date of delivery, or if delivered at or sent by registered or certified mail to the last business address known to the party giving notice on the date of mailing.

12.04 RIGHTS AND REMEDIES

- A. Except as otherwise provided in the Contract Documents, duties and obligations imposed by the Contract Documents and rights and remedies available thereunder will be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.
- B. No action or failure to act by the Owner or Design Professional will constitute a waiver of a right or duty afforded them under the Contract, nor will such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.
- C. Continued performance by the Owner as to the terms of this Contract after default by the Contractor will not be deemed a waiver by the Owner of the right to cancel for any subsequent default. Inspections, measurements or certificates issued by the Owner, payments of money, acceptance of any Work, grants of any extension of time, or any

other action taken by the Owner will not operate as a waiver of any provisions of the Contract or any power therein reserved to the Owner of any rights to damages therein provided. Any waiver of any breach of Contract will not be held to be a waiver of any other or subsequent breach.

- D. To the maximum extent permitted by applicable law, Contractor agrees it will not seek equitable adjustment of the terms of this Contract and that its remedies are limited to those specified herein.

12.05 TESTS AND INSPECTIONS

- A. Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction will be made at an appropriate time. The Contractor will give the Owner and Design Professional timely notice of its readiness so the Design Professional may observe such inspections, tests or approvals conducted by the Contractor or public authorities other than the Owner. (Refer to Section 01410 – Testing Laboratory Services).
- B. If the Owner, Design Professional, or other public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Subparagraph 12.05 A., the Design Professional will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval and the Contractor will give timely notice to the Owner and Design Professional of when and where such tests, inspections or approvals are to be made so the Design Professional may observe such procedures. The Owner will bear such costs except as provided in Subparagraph 12.05 C.
- C. If such procedures for testing, inspection or approval under Subparagraphs 12.05 A. and 12.05 B. reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, the Contractor will bear all costs made necessary by such failure including those of repeated procedures and compensation for the Design Professional's services and expenses.
- D. The Contractor will secure and promptly deliver to the Owner or Design Professional any required certificates of testing, inspection or approval, any occupancy permits, any certificates of final inspection of any part of the Contractor's Work and any operating permits for any mechanical apparatus, such as elevators, boilers, air compressors, etc., which may be required by law to permit full use and occupancy of the premises by the Owner. Receipt of such permits or certificates by the Owner or Design Professional will be a condition precedent to Substantial Completion of the Work or designated portion thereof.
- E. Tests or inspections conducted pursuant to the Contract Documents will be made promptly to avoid unreasonable delay in the Work.
- F. Notwithstanding any dispute which may arise out of the Work, the Contractor will carry on the work and maintain effective progress to complete same within the Contract Time(s) set forth in the Contract Documents.

12.06 E-VERIFY REQUIREMENTS/UNAUTHORIZED ALIENS

- A. The Contractor agrees to comply with the State of Florida, Office of the Governor, Executive Order Number 11-116 (Verification of Employment Status), which states that all agencies under the direction of the Governor are to include, as a condition of all state contracts for the provision of goods or services to the state in excess of nominal value, an express requirement that contractors utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the contractor during the contract term, and an express requirement that contractors include in such subcontracts the requirement that subcontractors performing work or providing services pursuant to the state contract utilize the E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term. Any projects with Florida Department of Transportation (FDOT) funding will contain this assurance as a condition for any new Joint Participation Agreements dated after January 4, 2011. The Contractor will verify all of their new employees and will require that their subcontractors verify all of their new employees in accordance with the E-verify requirements set out above.
- B. FDOT considers the employment by any contractor of unauthorized aliens a violation of Section 274A(e) of the Immigration and Nationality Act. If the Contractor knowingly employs unauthorized aliens, such violation will be cause of unilateral cancellation of this Contract.
- C. By entering into this Contract, the Contractor becomes obligated to comply with the provisions of Section 448.095, Fla. Stat., "Employment Eligibility." This includes but is not limited to utilization of the E-Verify System to verify the work authorization status of all newly hired employees, and requiring all subcontractors to provide an affidavit attesting that the subcontractor uses the E-verify system and subcontractor does not employ, contract with, or subcontract with, an unauthorized alien. Failure to comply will lead to termination of this Contract, or if a subcontractor knowingly violates the statute, the subcontract must be terminated immediately. Any challenge to termination under this provision must be filed in the Circuit Court no later than 20 calendar days after the date of termination. If this contract is terminated for a violation of the Section 448.095 by the Contractor, the Contractor may not be awarded a public contract for a period of 1 year after the date of termination.

12.07 LOBBYING AND INFLUENCING FEDERAL OR STATE EMPLOYEES - 49 CFR part 20, Appendix A

The Contractor certifies by signing and submitting its bid and this Contract, to the best of his or her knowledge and belief, that:

- A. No Federal appropriated funds have been paid or will be paid, by or on behalf of the Contractor, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

- B. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor must place the language of this certification in all contracts, purchase orders and other documents binding contractors, subcontractors and suppliers and require that all contractors, subcontractors and suppliers execute such certification and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

No funds received pursuant to this Contract may be expended for lobbying the Florida Legislature, judicial branch, or any state agency, in accordance with Section 216.347, Florida Statutes.

PART 13 – TERMINATION OR SUSPENSION OF THE CONTRACT

13.01 TERMINATION BY THE OWNER FOR CAUSE

- A. Owner may terminate this Contract for cause if the Contractor:
1. Fails to commence the Work within the time specified, fails to maintain adequate progress toward completion of the Work, discontinues the prosecution of the Work, abandons the prosecution of the Work, or fails to resume Work which has been discontinued within a reasonable time after notice to do so; or
 2. Fails to perform the Work, fails to provide a sufficient number of adequately skilled workers or supervisory staff who actively staff the Project and prosecute the Work, or fails to have available at the site proper equipment or materials to assure completion of the Work in accordance with the terms of the Contract Documents; or
 3. Performs the Work unsuitably, or neglects or refuses to remove materials or to perform anew such Work as may be rejected by Owner as unacceptable or unsuitable; or
 4. Fails to comply with Contract requirements regarding minimum wage payments, EEO, W/MBE or DBE requirements; or

5. Disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction; or
6. Allows any final judgment against it to remain unsatisfied for a period of 30 days; or
7. Becomes insolvent, is declared bankrupt, files for reorganization under the bankruptcy code or commits any act of bankruptcy or insolvency, either voluntarily or involuntarily; or
8. Makes an assignment for the benefit of creditors or attempts to assign its rights or obligations under this Contract or any part thereof to any third-party without the prior written consent of the Owner; or
9. Consents to or is the subject of any order or decree of any court or governmental authority or agency having jurisdiction appointing a receiver, trustee, or liquidator to take possession or control of all or substantially all of the Contractor's property for the benefit of creditors; or
10. Materially breaches any provision in this Contract; or
11. If at any time the Surety executing the bonds is determined by the Owner to be unacceptable and the Contractor fails to furnish an acceptable substitute Surety within ten days after notice from the Owner or;
12. Fails or refuses to perform any other obligation under this Contract, or fails to remedy such nonperformance within seven (7) days after notice of the occurrence by the Owner; or
13. Fails to achieve the required dates of Substantial and/or Final Completion.

B. When any of the above reasons exist, the Owner may, without prejudice to any other rights or remedies available, give notice, in writing, to the Contractor and the Contractor's Surety. If the Contractor within a period of ten days after receiving such notice has not commenced in good faith to cure such cause or breach, or if having commenced such cure is not proceeding diligently to complete the cure, the Owner will have full power and authority, without violating this Contract, to immediately take the prosecution of the Work out of the hands of the Contractor, may declare the Contractor in default, and may terminate, in whole or in part, this Contract.

1. Upon termination of this Contract, the Owner may, subject to any prior rights of the Contractor's Surety:
 - a. Take possession of the site and of all materials, equipment, tools, electronic drawings, including but not limited to BIM models, shop drawings and machinery thereon owned by the Contractor; and

- b. Finish the Work by whatever method the Owner may deem expedient and necessary.
- C. When the Owner terminates this Contract for cause, the Owner will be entitled to hold all amounts due the Contractor at the date of termination until completion of the Work and final evaluation of the Owner's damages associated with the termination. The Contractor will be liable to the Owner for costs and expenses incurred by the Owner in completing the Work, and also for losses, damages, costs and expenses including, but not limited to, direct, indirect and consequential damages. If such costs and expenses exceed the sum that would have been payable under this Contract, then the Contractor and the Surety will be liable and will pay to the Owner the amount of such excess. If the unpaid balance of the Contract Sum exceeds the cost of finishing the Work, including any and all additional costs and expenses to the Owner, such excess, to the extent earned, will be paid to the Contractor and/or Contractor's Surety.
- D. Upon termination of this Contract, the Owner has no liability for anticipated profits for unfinished Work.
- E. Termination of this Contract, or any portion thereof, will not relieve the Contractor or the Contractor's Surety of their liability for past and future damages, losses or claims on Work performed or on account of any act, omission, or breach by the Contractor. Liability for liquidated damages, if any, will continue to accrue as set forth in the Contract Documents.
- F. The Owner's right to termination, as set forth herein, shall be in addition to and not a limitation of any and all other rights and remedies available to the Owner, at law, in equity or under the terms of this Contract. If the Owner improperly terminates this Contract for cause, this termination for cause will be converted to and deemed to be a termination for convenience in accordance with the provisions of Paragraph 13.03. In such case, Contractor shall only be entitled to those rights and remedies expressly stated in Paragraph 13.03 and in no event shall Contractor be entitled to any damages or remedies for wrongful termination.
- G. Termination of this Contract, or portion thereof, under this Article does not relieve the Contractor or the Contractor's Surety of its responsibilities for the completed portion of the Work or its obligation for and concerning any just claims arising out of the Work performed.

13.02 SUSPENSION BY THE OWNER FOR CONVENIENCE

The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine. If the whole Work is suspended, all days elapsing due to causes not the fault of the Contractor between the effective dates of the Owner's order to suspend and subsequent order to resume the Work will be excluded from the Contract Time.

13.03 TERMINATION FOR CONVENIENCE OF OWNER

- A. Notwithstanding anything else in this Contract, the Owner may terminate performance of the Work under this Contract in whole or in part if the Owner determines that a termination is in the Owner's best interest or its sole and absolute discretion. The

Owner will terminate by delivery to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

- B. After receipt of a Notice of Termination, and except as directed by the Owner, the Contractor will immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this Paragraph:
1. Complete Work not terminated and stop Work as specified in the Notice of Termination.
 2. Place no further subcontracts or orders (referred to as subcontracts in this paragraph) for materials, services, or facilities, except as necessary to complete the continued portion of the Contract.
 3. Terminate all subcontracts to the extent they related to the Work terminated.
 4. Assign to the Owner, as directed, all rights, title, and interest of the Contractor under the subcontract terminated, in which case the Owner will have the right to settle or to pay any termination settlement proposal arising out of those terminations.
 5. With approval or ratification to the extent required by the Owner, settle all outstanding liabilities and termination settlement proposals arising from the terminations of subcontracts (the approval or ratification will be final for purposes of this paragraph).
 6. As directed by the Owner, transfer title and deliver to the Owner (1) the fabricated or unfabricated parts, Work in progress, completed Work, supplies, and other material produced or acquired for the Work terminated, and (2) the completed or partially completed plans, drawings, information, and other property that, if the Contract had been completed, would be required to be furnished to the Owner.
 7. Complete performance of the Work not terminated. If it should become necessary to suspend Work for an indefinite period, the Contractor will store all materials in such a manner that they will not become an obstruction nor become damaged in any way. The Contractor will take every precaution to prevent damage or deterioration of the Work performed and provide for normal drainage of the Work. The Contractor will erect temporary structures where necessary to provide for traffic on, to, or from the Airport.
 8. Take any action that may be necessary, or that the Owner may direct, for the protection and preservation of the property related to this Contract that is in the possession of the Contractor and in which the Owner has or may acquire an interest.
 9. Use its best effort to sell, as directed or authorized by the Owner, any property of the types referred to in Subparagraph 13.03 B.6. above; provided, however, that the Contractor (1) is not required to extend credit to any purchaser and (2) may acquire the property under the conditions prescribed by, and at process approved by, the Owner. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Owner under this Contract, credited to the price or cost of the Work, or paid in any manner directed by the Owner.

- C. The Contractor may submit to the Owner a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Owner. Within 30 days, the Owner will accept title of those items and remove them or enter into a storage contract. The Owner may verify the list upon removal of the items or, if stored, within 45 days from submission of the list, and will correct the list, as necessary, before final settlement.
- D. After termination, the Contractor will submit a final termination settlement proposal to the Owner in the form and with the certification prescribed by the Owner. The Contractor will submit the proposal promptly, but no later than 60 days from the effective date of termination, unless extended in writing by the Owner upon written request of the Contractor. If the Contractor fails to submit the proposal within the time allowed, the Owner may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and will pay the amount determined. No further compensation will be considered if the Contractor fails to meet the submittal requirements.
1. Subject to Paragraph 13.03 D. above, the Contractor and the Owner may agree upon the whole or any part of the amount to be paid because of the termination. The amount may include a reasonable allowance for profit of Work done. However, the agreed amount may not exceed the total Contract sum as reduced by (1) the amount of payments previously made and (2) the Contract Sum of Work not terminated. The Contract will be amended and the Contractor paid the agreed amount. Paragraph 13.03 F. below will not limit, restrict, or affect the amount that may be agreed upon to be paid under this Paragraph.
- E. If the Contractor and the Owner fail to agree on the whole amount to be paid the Contractor because of termination of the Work, the Owner will pay the Contractor the amounts determined as follows, but without duplication of any amounts agreed upon under Paragraph 13.03 D.1. above:
1. For Contract Work performed before the effective date of termination, the total (without duplication of any items) of:
 - a. The cost of this Work;
 - b. The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the termination portion of the Contract if not included in subdivision a. above; and
 - c. A sum, as profit on a. above, which will not exceed 5%. If it appears, however, that the Contractor would have sustained a loss on the entire Contract had it been completed, the Owner will allow no profit under this subparagraph c. and will reduce the settlement to reflect the indicated rate of loss.
 - d. When the Contract, or any portion thereof, is terminated before completion of all items of Work in the Contract, payment will be made for the actual number of units of Work completed at the Bid Unit Price or as mutually agreed for items of Work partially completed. No claims or loss of anticipated profits will be considered for items of Work completed at the Bid Unit Prices.

2. The reasonable costs of settlement of the Work terminated, including:
 - a. Reasonable accounting, clerical, and other expenses necessary only for the preparation of termination settlement proposals and support data;
 - b. The termination and settlement of subcontracts (excluding the amounts of such settlements);
 - c. Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory; and
 - d. Reimbursement for organization of the Work and other overhead expenses (when not otherwise included in the Contract), and moving equipment and materials to and from the site will be considered..
- F. Except for normal spoilage, and except to the extent that the Owner expressly assumed the risk of loss, the Owner will exclude from the amounts payable to the Contractor under Paragraph 13.03 E. above, the fair value, as determined by the Owner, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Owner or to the buyer.
- G. In arriving at the amount due the Contractor under this paragraph, there will be deducted:
 1. All unliquidated advance or other payments to the Contractor under the terminated portion of the Contract;
 2. Any claim which the Owner has against the Contractor under this Contract;
 3. The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this paragraph and not recovered by or credited to the Owner; and
 4. Contractor expressly waives any claim for loss of anticipated profit, overhead of any kind, including home office and jobsite overhead, or other indirect impacts.
- H. Unless otherwise provided in this Contract or by statute, the Contractor will maintain all records and documents (including but not limited to subcontracts, subcontractor change orders, purchase orders, bid tabulations, proposals, and all other documents associated with the project) relating to the termination portion of this Contract for seven years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this Contract. The Contractor will make these records and documents available to the Owner, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Owner, photographs, microphotographs, electronic media or other authentic reproductions may be maintained instead of original records and documents.

PART 14 – AUDIT REQUIREMENTS

14.01 PAYMENTS

In connection with payments to the Contractor under this Contract, it is agreed the Contractor will maintain full, accurate and detailed books of account and records customarily used in this type of business operation in accordance with generally accepted accounting principles. The Owner, FAA,

TPA / North Air Cargo Roof Rehabilitation

Federal Highway Administration, Florida Department of Transportation, Florida Department of Financial Services, Florida Auditor General, Florida Inspector General, Florida Chief Financial Officer, and the Comptroller General of the United States, or any duly authorized representative of each, may have the right to audit the Contractor's records for the purpose of making audits, examinations, excerpts, and/or transcriptions and to determine payment eligibility under this Contract and compliance with this Contract. The Owner also has the right to perform inspections or attestation engagements. Access will be to any and all of the Contractor's records, including books, documents, papers, accounting procedures and practices, and any other supporting evidence the Owner deems pertinent to this Contract, as well as records of parent, affiliate and subsidiary companies. The Contractor shall maintain such books and records for seven years after the end of the term of this Contract.

14.02 ACCESS TO RECORDS

If the records are kept at locations other than the Airport, Contractor will arrange for said records to be brought to a location convenient to Owner's auditors to conduct the engagement as set forth in this Article or Contractor may transport Owner's team to location of the records for purposes of undertaking said engagement. In such event, Contractor will pay reasonable costs of transportation, food and lodging for Owner's team.

14.03 RECORDS FORMAT

In the event the Contractor maintains its accounting or Project information in electronic format, upon request by the Owner's auditors, the Contractor will provide a download of its accounting or Project information in an electronic format allowing readership in Microsoft Office products or Adobe Acrobat software.

14.04 RECORDS DELIVERY

Contractor agrees to deliver or provide access to all records requested by Owner's auditors within 14 calendar days of the request at the initiation of the engagement and to deliver or provide access to subsequent requests during the engagement within 7 calendar days of each request. The parties recognize that the Owner will incur additional costs if records requested by Owner's auditors are not provided in a timely manner and that the amount of those costs is extremely difficult to determine with certainty. Consequently, the parties agree that Contractor may be assessed liquidated damages of \$100.00, in addition to other contractual financial requirements, for each item in a records request, per calendar day, for each time Contractor is late in submitting requested records to perform the engagement. Accrual of fees will continue until specific performance is accomplished. This liquidated damage rate is not an exclusive remedy and Owner retains its rights including but not limited to its rights to elect its remedies and pursue all legal and equitable remedies. The parties expressly agree that these liquidated damages are not a penalty and represent reasonable estimates of fair compensation for the losses that reasonably may be anticipated from such failure to comply.

14.05 ENGAGEMENT

The Owner has the right during any engagement to interview the Contractor's employees, subcontractors, sub-consultants, suppliers or any other persons associated with the Work or this Contract, to make photocopies, and to inspect any and all records upon request. The right to initiate an engagement, inspection or attestation engagement will extend during the Contract period and for six years after the completion date of the Work, or six years after the termination of this Contract, whichever occurs later.

14.06 RECORDS RETENTION

The Contractor will provide all information and reports requested by the Owner, or any of their duly authorized representatives, or directives issued pursuant thereto, and will permit access, for the purpose of performing an audit, examination, inspection, or attestation engagement, to the Contractor's books, records, accounts, documents, papers, or other sources of information, and its facilities as may be determined by the Owner to be pertinent to ascertain compliance with this Article. The Contractor will keep all Project accounts and records which fully disclose the amount of the Contractor's Bid. The accounts and records will be kept in accordance with an accounting system that will facilitate an effective audit in accordance with the Single Audit Act of 1984, as amended.

14.07 OVERCHARGE PROVISIONS

In the event the Contractor has overcharged the Owner, the Contractor will re-pay the Owner the amount of the overcharge, plus interest on the overcharge amount up to 12% per year from the date the overcharge occurred. In addition, if the Contractor has overcharged the Owner by more than 3% of the correct reimbursable amount, the Owner may assess and the Contractor will pay for the entire cost of the audit.

14.08 SUBCONTRACT AUDIT PROVISIONS

The Contractor will include in all subcontractor, sub-consultant and supplier contracts a provision which provides the Owner the same rights to audit as provided in this Article.

14.09 OWNER'S RIGHT TO AUDIT

Approvals by Owner's staff for any services not included in this Contract do not act as a waiver or limitation of the Owner's right to audit.

14.10 NOTIFICATION TO OWNER

The Contractor will notify the Owner no later than seven days after receiving knowledge that it is subject to any other audit, inspection or attestation engagement related to this Contract and provide a copy of any audit documents so received.

14.11 COOPERATION

The Contractor agrees to comply with Section 20.055(5), Florida Statutes, and to incorporate in all subcontracts the obligation to comply with Section 20.055(5), Florida Statutes.

PART 15 – CIVIL RIGHTS

15.01 GENERAL REQUIREMENT FOR CONTRACTS

Subject to the applicability criteria noted in the specific Contract provisions, these Contract provisions apply to all work performed on the Contract. Failure to comply with the terms of these Contract provisions may be sufficient grounds to:

1. Withhold progress payments or final payment,
2. Terminate the Contract,
3. Seek suspension/debarment, or

4. Any other action determined to be appropriate by the Owner or the FAA.

15.02 CIVIL RIGHTS – GENERAL - 49 USC § 47123

- A. The Contractor agrees that it will comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from Federal assistance.
- B. Duration:
 1. This provision binds the Contractor from the bid solicitation period through the completion of the Contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.
 2. This provision also obligates the Contractor or its transferee for the period during which Federal assistance is extended to the airport through the Airport Improvement Program, except where Federal assistance is to provide, or is in the form of personal property; real property or interest therein; structures or improvements thereon. In these cases the provision obligates the Contractor for the longer of the following periods:
 - i. The period during which the property is used by the Owner or any transferee for a purpose for which Federal assistance is extended, or for another purpose involving the provision of similar services or benefits;
or
 - ii. The period during which the Owner or any transferee retains ownership or possession of the property.

END OF SECTION

SECTION 00850 - DRAWING INDEX

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R-507	REPAIR DETAILS W.I. 96.1

END OF SECTION

SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION

A. Project/Work Identification:

1. The general overall description of the Work of the Contract for the:

**North Air Cargo Roof Rehabilitation
Tampa International Airport
Tampa, Florida**

can be summarized for purposes of administration and payment in the manner of project segments as follows:

Authority Project Number: 6530 18

Description:

This Project consists of rehabilitation of the North Air Cargo Building at Tampa International Airport. The Project will include roof removal and replacement. The new roof system will consist of single-ply roofing including sheet metal and lightning protection. Steel decking repairs and installation of additional fasteners are included in the roof rehabilitation.

B. Contract Documents:

Requirements of the Work are contained in the Contract Documents. Cross-references in the Contract Documents to published information are not necessarily bound with the Contract Documents.

C. Intent:

The intent of the Contract is to provide for construction and completion in full compliance with the Contract requirements with all Work performed and completed in a first class workmanlike manner in every detail. It is further intended that the Contractor will furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the Work in a good workmanlike manner in accordance with the Contract Documents.

1.02 [RESERVED]

1.03 ARCHAEOLOGICAL AND HISTORICAL FINDINGS.

- A. Unless otherwise specified in this subsection, the Contractor is advised that the site of the Work is not within any property, district, or site, and does not contain any building, structure, or object, listed in the current National Register of Historic Places published by the United States Department of Interior.

- B. Should the Contractor encounter, during its operations, any building, part of a building, structure, or object that is incongruous with its surroundings, it will immediately cease operations in that location and notify the Owner. The Owner will immediately investigate the Contractor's finding and the Owner will direct the Contractor to either resume its operations or to suspend operations.
- C. Should the Owner order suspension of the Contractor's operations in order to protect an archaeological or historical finding, or order the Contractor to perform extra work, such will be covered by an appropriate Contract modification (change order or supplemental contract). If appropriate, the Contract modification will include an extension of Contract Time.

1.04 REMOVAL OF EXISTING STRUCTURES

- A. All existing structures encountered within the established lines, grades, or grading sections will be removed by the Contractor, unless such existing structures are otherwise specified to be relocated, adjusted up or down, salvaged, abandoned in place, reused in the Work or to remain in place. The cost of removing such existing structures will not be measured or paid for directly, but will be included in the Contract Sum.
- B. Wherever existing structures interfere with Contractor's Work, Contractor shall be responsible for all modifications, including removal if appropriate, to fit Contractor's Work.
- C. Should the Contractor encounter an existing structure that interferes with Contractor's Work, the Owner will be notified prior to disturbing such structure. The disposition of existing structures so encountered will be determined by the Owner in accordance with the provisions of the Contract.
- D. Where existing structures are determined to be removed, Contractor shall remove and dispose of the material. Where such structures are determined to remain and are integrated into Contractor's Work, such materials and structures will remain the property of the Owner when so utilized in the Work.

1.05 RIGHTS IN AND USE OF MATERIALS FOUND IN THE WORK

- A. Should the Contractor encounter any material such as, but not restricted to, sand, stone, gravel, slag, or concrete slabs, within the established lines, grades, or grading sections, the use of which is intended by the terms of the Contract to be either embankment or waste, Contractor may at its option either:
 - 1. Use such material in another Contract item, providing such use is approved by the Owner and is in conformance with the Contract Specifications applicable to such use; or
 - 2. Remove such material from the Project site, upon written approval of the Owner; or
 - 3. Use such material for Contractor's own temporary construction on the Project site; or

4. Use such material as intended by the terms of the Contract.
- B. Should the Contractor wish to exercise option 1, 2., or 3., Contractor will request the Owner's approval in advance of such use.
- C. Should the Owner approve the Contractor's request to exercise option 1., 2., or 3., the Contractor will be paid for the excavation or removal of such material at an agreed upon unit price. The Contractor will replace, at Contractor's own expense, such removed or excavated material with an agreed equal volume of material that is acceptable for use in constructing embankment, backfills, or otherwise to the extent that such replacement material is needed to complete the Work. The Owner will not be charged for Contractor's use of such material so used in the Work or removed from the Project site.
- D. It is understood and agreed that the Contractor will make no claim for delays by reason of Contractor's exercise of option 1., 2., or 3.
- E. The Contractor will not excavate, remove, or otherwise disturb any material, structure, or part of a structure which is located outside the lines, grades, or grading sections established for the Work, except where such excavation or removal is provided for in the Contract Documents.

1.06 SCHEDULING

- A. Refer to Section 01315.

1.07 LIST OF RELATED WORK

- A. During performance of the Work under this Contract, the following other contracts will be under construction:
 - 6530 18, North Air Cargo Truck Court Rehab, Parking Expansion and Service Road Relocation
 - 8330 20, North Remain Overnight Apron

1.08 COOPERATION BETWEEN CONTRACTORS

- A. When separate contracts are awarded for different portions of the Project, the Contractor in each case will be the person other than the Owner who signs each separate contract.
- B. The Owner reserves the right to contract for and perform other or additional construction on or near the Work covered by this Contract.
- C. When separate contracts are let within or near the limits of this Project, the Contractor will conduct its Work so as not to interfere with or hinder the progress of completion of the construction performed by other contractors. Contractors working near each other will cooperate with each other as directed by the Owner.

- D. The Contractor will assume all liability, financial or otherwise, in connection with Contractor's Work and will protect and save harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays or loss experienced by the Contractor because of the presence and operations (or lack thereof) of other contractors working within or near the limits of this Project.
- E. The Contractor will arrange the Work and will place and dispose of the materials as not to interfere with the operations of the other contractors within or near the limits of this Project. The Contractor will join the Work with that of the others in an acceptable manner and will perform it in proper sequence to that of the others.
- F. The terms of this Section may not be waived by the Owner unless such waiver is in writing and makes specific reference to this Section.

1.09 [Reserved]

1.10 COORDINATION WITH CONTRACTS

- A. The Contractor will be responsible for directly coordinating and reviewing all schedule dates with the contracts listed above in Item 1.07 LIST OF RELATED WORK, Paragraph A., and shall plan its Work accordingly to not cause any delays or hinder the progress of its Work or that of the Related Work.
- B. It is the sole and full responsibility of the Contractor to coordinate the whole Work directly with the contracts listed above in Item 1.07 LIST OF RELATED WORK, Paragraph A.
- C. The listing of contracts under 1.07 LIST OF RELATED WORK, Paragraph A., may not be inclusive of other related work performed at the Project site; however, the Contractor will be required to coordinate same as directed under Paragraphs A. and B. above.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01015 - MOBILIZATION

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope:

The Work specified as Mobilization consists of preparatory work and operations in mobilizing for beginning work on the Project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the Project site, building permit costs, and for the establishment of temporary offices, building facilities, utilities, safety equipment and first aid supplies, sanitary and other facilities, as required by these Contract Documents and State and local laws and regulations. The costs of bonds and all required insurance and other preconstruction expense necessary for the start of the Work, excluding the cost of construction materials, will also be included in Mobilization.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.01 BASIS OF PAYMENT

Not Used.

END OF SECTION

SECTION 01020 - OWNER'S ALLOWANCES

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. Owner's allowances in the amounts indicated and as described below have been established for certain types of work. The Contractor will perform such Work only upon receipt of written work orders from the Owner. For this purpose, a Work Order will have the same meaning for requirements pertaining to submittals, approvals, etc. as in Section 00700, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, Paragraph 7.3 CONSTRUCTION CHANGE DIRECTIVES, as modified, except the Work Order is only signed by the Owner.
- B. If the Work Order directs that the allowance work be performed, the provisions of Section 00700, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, as modified, will govern the conduct and payment for this Work.
- C. Definitions and Explanations: All Work, including any allowance work if authorized, shall be performed in full compliance with the requirements of the Contract. All allowance work, if and when authorized, shall be performed by the Contractor in accordance with the Work Order.
1. Contractor shall coordinate allowance Work with related Work to ensure that each selection is completely integrated and interfaced with related Work, and shall include all aspects of Work to fully integrate the Work with all other Work and Related Work.
- D. "Purchase and Installation" means the allowance covers both the purchase and installation of the indicated Work. The Contractor will bear the cost of coordinating the Work, providing the installer with access to the Work, temporary heat, ventilation, light, workspace, storage space, parking and toilet facilities, the cost of which will be included in the Contract Sum and not in the allowance.
- E. Work Order Data: Where applicable, Contractor shall include in each Work Order proposal both the quantities of products being purchased and units requested, and furnish survey-of-requirements data to substantiate quantities. Indicate applicable taxes, delivery charges, and amounts of applicable trade discounts.
- F. Upon issuance of a Work Order, the Work Order funds will be tracked separately on the Contractor's Schedule of Values by Work Order number and the amount of the Cost of Work. If multiple subcontractors are employed for the Work Order, each Subcontractor's Pay Requisition will include a separate line with the description Work Order number that will flow to the Contractor's Schedule of Values. Once work is complete on the Work Order, the Contractor has 30 days in which to reconcile the Work Order, as follows:
1. Provide Owner Project Management with a package containing cost support documents totaling the Cost of Work.

2. Calculate mark-ups and fee using the same formula/calculations used to create the original Work Order budget.
3. Any unused Work Order funds will be returned to the Owner's Allowance budget via a negative Work Order.

The Contractor will forfeit their fee on the Work Order for any Work Orders that have not been reconciled within 30 days of the completion of the work, following the process above.

- G. Work Order Mark-Up: The amount of each Work Order resulting from final selection and installation of products and systems covered by an allowance will be the difference between the amount of installed Work and the allowance. This is a procedural clarification of Section 00700, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, as modified.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.01 SCHEDULE OF OWNER'S ALLOWANCES

- A. These allowances will cover the total cost of all Work authorized under a Work Order, including but not limited to design, cost of materials and equipment delivered and unloaded at the Project site, and all applicable taxes, permits, fees, labor, installation costs and integration as applicable. The Contractor's percentage, overhead and profit for the allowance will be included in the Work Order amount.
- B. Should the aggregate of charges for all approved Work Orders issued by the Owner under the allowances be less than the amount of the allowance, the final Contract Sum will be decreased by the amount of the difference. No Work will be performed that would cause total charges under the allowances to exceed the authorized allowance amount. The authorized allowance amount may be increased by Change Order. Should the aggregate charge for an approved Work Order issued by the Owner under the Allowance be less than the amount of the Work Order, the Owner may issue another Work Order in a negative amount to reconcile the Work Order. Such reconciliation Work Orders do not require executive management approval.
- C. The following allowance amounts will be included in the Contract Sum bid amount on the Bid Form:

OWNER'S ALLOWANCE: Allow an amount of \$100,000 of the Contract Sum for:

1. Owner's Allowance may be used for repair, removal, relocation and/or replacement of utilities (sanitary system, storm system, potable water system, fire protection system, mechanical system, electrical system, communications, security system, etc.).

2. Owner's Allowance may be used for the resolution of unforeseen conditions with the existing airport property. This includes all elements associated with or discovered during the current contract scope including structural, sub surface, paving, lighting, signage, navigational aid, civil, irrigation, building envelope, or other elements associated with the contract scope.
 3. Owner's Allowance may be used for relocation and adjustments of Work associated with the airport's tenants or operations (airlines, rental car companies, concessions, TSA, CBP, FAA, Fed Ex, FBO, etc.) and other contracts. This Work shall include all disciplines: architectural, structural, mechanical, plumbing, electrical, communications, fire protection, civil, signage, etc.
 4. Owner's Allowance may be used for resolution of modifications to the project work as required by the authority having jurisdiction (Building Office, Fire Marshall, City Inspector, etc.).
 5. Owner's Allowance may be used for resolution of unforeseeable conditions relating to coordination and phasing requirements with other projects and equipment installations.
 6. Owner's Allowance may be used for temporary signage not shown on the Contract Documents, but which is deemed necessary to inform the public regarding facilities usage during construction with the approval of Owner's executive management.
 7. Owner's Allowance may be used for the rehabilitation or replacement of finishes not specifically identified in the construction documents and approved by the Owner.
 8. Owner's Allowance may be used for resolution of unforeseeable conditions relating to an increase over the estimated quantities of the various bid items based on the actual quantities as constructed and accepted in the field.
 9. Owner's Allowance may be used for resolution of unforeseeable conditions relating to an increase in the area or the addition of areas of joint sealant and miscellaneous metal trim pieces.
 10. Owner's Allowance may be used for any Work not shown in the Contract Documents, but which is necessary to complete the Project, with approval of executive management.
- D. Contract Time will not be extended as a result of the issuance of any Work Order under this Section 01020 – OWNER'S ALLOWANCES.
- E. The Contract Sum will not be adjusted for any costs of acceleration resulting from the issuance of Work Orders under this Section 01020 – OWNER'S ALLOWANCES. In addition, the Contract Sum will not be adjusted for any costs of acceleration of the whole work resulting from the issuance of Work Orders under this Section 01020 – OWNER'S ALLOWANCES.

END OF SECTION

SECTION 01025 – FIELD OFFICES

PART 1 – GENERAL

1.01 REQUIREMENTS

For the purpose of prosecuting its Work, including but not limited to conducting onsite Project and Contract meetings, the Contractor will furnish, install and maintain temporary field offices for the Owner's representatives and the Contractor during the entire construction period and Contractor will furnish, install and maintain storage and work sheds needed for its on-site activities, including storage of equipment, materials and construction. Upon completion of the Work, the Contractor will remove field offices, sheds and contents, and restore site to original condition.

1.02 OTHER REQUIREMENTS

Prior to installation of offices, the Contractor will consult and coordinate with the Owner on location, access and related facilities. Contractor's field offices, staging and laydown areas, and Contractor's employee parking, will be located within (*insert airport*) Airport. Such areas will not be exclusive to the Contractor. Contractor shall coordinate its requirements with others having access to the areas through the Owner.

1.03 REQUIREMENTS FOR FACILITIES

A. Construction will:

1. Be structurally sound, weather tight, with floors raised above ground.
2. Have temperature transmission resistance compatible with occupancy and storage requirements.
3. At Contractor's option consist of portable or mobile buildings subject to the following:
 - a. Mobile trailers, when used, will be modified for office use.
 - b. Mobile trailers will not be used for living quarters.

B. Contractor's Office and Facilities shall:

1. Be sized as required for Contractor's general use. Will also provide separate office accommodations for Owner's staff and general use.
2. Have lighting and temperature control as follows:
 - a. Lighting: 50-foot candles at desk top height.
 - b. Exterior lighting at entrance door.
 - c. Automatic heating and mechanical cooling equipment sufficient to

maintain comfort conditions.

3. Have racks and files for Project Record Documents.
 4. Have other furnishings at Contractor's option.
 5. Have at least one copy machine with reduction and enlargement capabilities.
- C. The Contractor will make all provisions and pay for all installations and other costs including maintenance and supplies in order to provide, high speed internet service, power service, exterior lights, copy machine and facsimile machine at the Project site available for the Owner's use. The Contractor will pay all monthly charges for the various services throughout the period of use and until 60 days after the Contractor has reached Final Completion of the Work (including "punch list" items), or until Contractor removes the facilities, whichever is later.
- D. The Contractor will pay for the installation of all utilities required to support the Contractor's and Owner's temporary field offices.

PART 2 – PRODUCTS

2.01 MATERIALS, EQUIPMENT, FURNISHINGS

Materials, equipment and furnishings may be new or used, but must be serviceable, adequate for required purpose, and must comply with all applicable Laws and Regulations.

PART 3 – EXECUTION

3.01 PREPARATION

The Contractor will fill and grade sites for temporary structures to provide adequate surface drainage.

3.02 INSTALLATION

The Contractor will construct temporary field offices on proper foundations; provide connections for utility services; secure portable or mobile buildings when used; provide steps and landings at entrance doors; and provide hurricane or high wind tie-downs, all in accordance with all applicable Laws and Regulations.

3.03 MAINTENANCE AND CLEANING

The Contractor will provide regular maintenance and cleaning for temporary structures, furnishings, equipment and services to maintain such facilities in good hygienic condition compatible with their intended use.

3.04 REMOVAL

- A. The Contractor will remove temporary field offices, contents and services at a time when no longer needed and as approved by the Owner.

- B. The Contractor will remove foundations and debris and grade the site to required elevations and clean the areas.

3.05 LOCATION OF FIELD OFFICES

The Contractor will locate all temporary field offices on the Owner's property at the location(s) to be coordinated with the Owner per Paragraph 1.02 above or per agreement between the Contract parties if no on site space is available. No additional compensation will be provided to the Contractor for the offsite rental/purchase of space.

END OF SECTION

SECTION 01040 - PROJECT COORDINATION

PART 1 - GENERAL

1.01 DESCRIPTION

The minimum administration and supervisory requirements necessary for coordination of work on the Project include but are not necessarily limited to the following:

- A. Preconstruction Conference.
- B. Coordination and Progress Meetings.
- C. Preinstallation Conferences.
- D. Preconstruction and Progress Photographs.
- E. Reporting and Schedules.
- F. Special Reports.
- G. Service Interruption Requests.
- H. Drawing Log (updated weekly).

1.02 COVENANT OF GOOD FAITH AND FAIR DEALING

- A. This Contract imposes an obligation of good faith and fair dealing in its performance and enforcement.
- B. The Contractor and the Owner, with a positive commitment to honesty and integrity, agree to the following mutual duties:
 - 1. Each will function within the laws and statutes applicable to their duties and responsibilities.
 - 2. Each will assist in the other's performance.
 - 3. Each will avoid hindering the other's performance.
 - 4. Each will proceed to fulfill its obligations diligently.
 - 5. Each will cooperate in the common endeavor of the Contract.

1.03 PRECONSTRUCTION CONFERENCE

- A. Before beginning work at the Project site, the Contractor will attend a preconstruction conference and bring the Project Management Team, including but not limited to, the Project Manager and Superintendent employed for this Project. This conference will be requested by the Contractor and called by the Owner who will arrange for other

interested parties to be present.

- B. The Contractor will also notify its major subcontractors and suppliers of this meeting if their attendance is required. At this time, all parties will discuss the Project under Contract and prepare a program of procedure in keeping with requirements of the Contract Documents. The Contractor's Project Management Team will make every effort to expeditiously coordinate all phases of the Work, including the required reporting procedure, to obtain the end result within the full purpose and intent of the Contract Documents for this Project.

1.04 COORDINATION AND PROGRESS MEETINGS

The Contractor will:

- A. Prepare a written memorandum on required coordination activities. Included will be such items as required notices, reports, and attendance at meetings. This memorandum will be distributed to each entity performing construction at the Project site.
- B. In addition to specific coordination and preinstallation meetings for each element of Work, and other regular project meetings for other purposes, hold general progress meeting each week with time coordinated with preparation of payment request. Require each party then involved in planning, coordination, or performance of Work to be properly represented at each meeting. Review present and future needs including interface requirements, time, sequences, deliveries, access, site utilization, temporary facilities and services, hours of work, hazards and risks, housekeeping, change orders, and documentation of information for payment requests.
- C. Discuss whether each element of current Work is ahead of schedule, on time, or behind schedule in relation with updated progress schedule. Determine how behind schedule Work will be expedited and secure commitments from parties involved. Discuss whether schedule revisions are required to ensure that current Work and subsequent Work will be completed within Contract Time.
- D. Review everything of significance which could affect progress of Work or potential claims.
- E. Prepare written minutes of the meeting and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting in format required by Owner.

1.05 PREINSTALLATION CONFERENCES

The Contractor will:

- A. Well in advance of installation of every major unit of Work which requires coordination and interfacing with other Work, meet at Project site with installers and representatives of manufacturers and fabricators who are involved in or affected by unit of Work, and in coordination or integration with other Work which has preceded or will follow. Preinstallation and coordination meetings shall also occur prior to a new trade or new

scope of work starting. These meetings are also intended to review the approved submittals, means and methods, testing requirements, mock-up requirements, egress, MOT, and other relevant items.

The Contractor shall have a preinstallation and coordination meeting prior to starting work in a new area that could potentially impact the Authority. This pertains to multiple phased projects. Prior to transitioning to a new area of work, a preinstallation and coordination meeting shall occur to discuss impacts, schedule, temp signage, potential utility interruptions, MOT, delivery options, and other relevant items.

The Owner shall be invited to all preinstallation and coordination meetings. At the Owner's discretion, they may invite other parties that could include other contractors, engineers, department heads, or any other personnel that they deem necessary. These meeting should occur well in advance of any mobilization so as to allow the Owner to communicate to other team members and review the contract documents prior to the meetings. An agenda shall be distributed by the Contractor no later than 48 hours in advance.

- B. Advise Owner of schedule meeting dates.
- C. At each conference, review progress of other Work and preparations for particular Work under consideration, including requirements of Contract Documents, options, related change orders, purchases, deliveries, shop drawings, product data, quality control samples, possible conflicts, compatibility problems, time schedules, weather limitations, temporary facilities, space and access limitations, structural limitations, governing regulations, safety, inspection and testing requirements, required performance results, recording requirements, and protection.
- D. Record significant discussions of each conference. Record agreements and disagreements. Record final plan of action. Distribute written minutes of conference promptly to everyone concerned, including Owner and others in attendance in format required by Owner.

1.06 PRECONSTRUCTION AND PROGRESS PHOTOGRAPHS

The Contractor will provide:

- A. Preconstruction and progress photographs are required by the Contract. Contractor will promptly forward electronic copies to the Owner.
- B. Photographs, videotape(s) or other video recording media will be labeled with the item and date and properly identified and categorized with the name of the person taking the photographs and/or video.

1.07 REPORTING AND SCHEDULES

- A. Within 48 hours after each conference/meeting date, distribute copies of minutes-of-the-meeting in format required by the Owner to each entity present and to others who should have been present.

- B. Include brief summary, in narrative form, of progress of the Work since previous conference/meeting and report.
- C. Schedule Updating:
 - 1. Immediately following each conference/meeting, where revisions to Progress Schedule have been made or recognized, revise Progress Schedule.
 - 2. Reissue revised Project Schedule concurrently with report of each conference/meeting where appropriate but no later than five days after the conference/meeting.

1.08 SPECIAL REPORTS

- A. Reporting Unusual Events: When an event of an unusual and significant nature, including, but not limited to an accident, injury, or criminal activity, occurs at the Project site, Contractor will prepare and submit a special report to the Owner. The special report will list chain of events, persons participating, response by the Contractor's personnel, an evaluation of the results or effects and similar pertinent information. The Contractor will advise the Owner as soon as possible when such events are known. Time is of the essence.
- B. The Contractor will submit special reports directly to the Owner no later than one day of occurrence. The Contractor will also submit a copy of the special reports to other entities that are affected by the occurrence no later than one day of the occurrence.

1.09 COORDINATION DURING CONSTRUCTION

The Contractor will:

- A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work.

Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation including, but not limited to:
 - 1. Scheduling construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinating installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 - 3. Making provisions to accommodate items scheduled for later installation.
- B. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination; include such items as required notices, reports, and attendance at conference/meeting; and prepare similar memoranda for

the Owner and separate contractors where coordination of their work is required.

- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Project closeout activities.

- D. Conservation: Coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials and Owner's Sustainability Master Plan and salvage materials and equipment involved in performance of, but not actually incorporated in, the Work.

1.10 GENERAL COORDINATION PROVISIONS

The Contractor will:

- A. Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed and not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

- B. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

1.11 STAFF NAMES

The Contractor will:

- A. At the Preconstruction and Preinstallation conferences, submit a list of the Contractor's principal staff assignments, including the superintendent and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their telephone numbers and email addresses. The Contractor will update the list as required. The list will be entered into the Owner's software management system. The Contractor will coordinate with the Owner's Document Control Manager to ensure that this information is up to date on a quarterly basis by providing this list and indicating all changes to the list each time.

END OF SECTION

SECTION 01045 - CUTTING AND PATCHING

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Cutting and patching includes cutting into existing construction to provide for installation or performance of other Work, subsequent fitting, and patching required to restore surfaces to original condition.
- B. The Contractor will proceed with cutting and patching at earliest feasible time to complete the Work without delay.
- C. The Contractor will execute cutting, fitting, and patching, including excavation and backfill, required to perform Work and to:
 - 1. Make several parts fit together properly.
 - 2. Uncover portions of Work to make provisions for installation of ill-timed Work.
 - 3. Remove and replace defective Work.
 - 4. Remove and replace Work not conforming to requirements of Contract Documents.
 - 5. Remove samples of installed Work as required for testing.
 - 6. Make routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
 - 7. Uncover Work to allow for Owner's observation of covered Work, which has been covered prior to required observation of Owner.
- D. Cutting and patching performed during manufacture of products or during initial fabrication, erection or installation processes is not considered to be cutting and patching. Drilling of holes to install fasteners and similar operations is also not considered to be cutting and patching.
- E. Refer to other sections of Specifications for specified cutting and patching requirements and limitations applicable to individual units of Work. Do not cut and patch Work without Owner's written acceptance of procedures.
- F. The Contractor will for new Work, retain original installer or fabricator or another recognized, experienced and specialized firm to perform cutting and patching.
- G. The Contractor will locate all utilities and structural elements within a slab or deck.

1.02 BUILDING MODIFICATIONS

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- A. Modifications to the structure and its mechanical and electrical parts will be provided as indicated and as necessary to accomplish the Work of these Contract Documents.
- B. Modifications will include the removal of existing structure or parts as applicable, relocation of materials and/or parts, termination and relocation of utilities, cutting, patching, cleaning, adjusting, and refinishing, and all incidental Work related to these tasks.
- C. It is the Owner's intent to maintain daily occupancy functions during the progress of this Work. The Contractor will closely coordinate this Work to minimize inconvenience thereto.
- D. No utilities will be interrupted without first notifying the Owner and obtaining concurrence with the interruption. Refer to Section 01545 - UTILITIES for requirements.

1.03 SUBMITTALS

- A. Procedural Proposal for Cutting and Patching:
 - 1. Where prior acceptance of cutting and patching is required, the Contractor will submit proposed procedures for Work well in advance of time Work will be performed.
 - 2. The Contractor will include the following information, as applicable, in submittal:
 - a. Nature of Work and how it is to be performed, indicating why cutting and patching cannot be avoided. Describe the extent of the cutting and patching required and how it is to be performed.
 - b. Anticipated results of Work in terms of change to existing conditions including structural, operational and visual changes, as well as other significant elements.
 - c. List products to be used and firms that will perform Work.
 - d. Dates when cutting and patching are to be performed.
 - e. List utilities that will be disturbed or otherwise be affected by Work, including utilities that will be relocated and utilities that will be out-of-service temporarily.
 - f. Indicate how long utility service will be disrupted.
- B. Where cutting and patching of structural Work involves addition of reinforcement, the Contractor will submit details and engineering calculations to show how reinforcement is integrated with original structure to satisfy requirements.
- C. Review of procedural proposal by Owner does not waive Owner's right to later require

complete removal and replacement of Work found to be cut and patched in unsatisfactory manner.

- D. The Contractor will not cut or patch structural elements in a manner that would impact their load carrying capacity or load-deflection ratio.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. The Contractor will use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to fullest extent possible with regard to visual effect.
- B. The Contractor will use materials for cutting and patching that will result in equal-or-better performance characteristics.
- C. The Contractor will comply with specifications and standards for each specific product involved.
- D. Should conditions of Work or schedule indicate change of products from original installation, the Contractor will submit requirements for substitution with sufficient documentation to substantiate that the proposed substitution is equivalent in terms of performance to the original installation.

PART 3 – EXECUTION

3.01 EXAMINATION

The Contractor will:

- A. Before cutting, examine surfaces and conditions under which Work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with Work.
- B. Before the start of cutting Work, meet at Work site with all parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict between various trades. Coordinate layout of Work and resolve potential conflict before proceeding with Work.
- C. Slabs and walls shall be X-rayed for locations of any utilities and structural elements before coring or cutting begins. Due to the inability of GPR (ground penetrating radar) to properly locate PVC piping and conduit, GPR shall only be used with written approval by Owner.

3.02 PREPARATION

The Contractor will:

- A. Provide adequate temporary support as necessary to assure structural value or integrity

of affected portion of Work.

- B. Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of Project that may be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Take precautions not to cut existing pipe, conduit, or duct serving building(s) scheduled to be relocated until provisions have been made to bypass them.

3.03 CUTTING

The Contractor will:

- A. Cut Work using methods that are least likely to damage Work to be retained or adjoining Work.
- B. Use handheld small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using cutting machine such as carborundum saw or core drill to ensure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent Work. To avoid marring existing finished surfaces, cut or drill from exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.
- C. Bypass utility services such as pipe and conduit before cutting, where such utility services are shown or required to be removed, relocated, or abandoned. Cut-off conduit and pipe in walls or partitions to be removed. After bypass and cutting, cap, valve, or plug and seal tight remaining portion of pipe and conduit to prevent entrance of moisture or other foreign matter.
- D. Not cut and patch operational elements or safety related components in a manner that would result in reduction of capacity to perform in manner intended, including energy performance, or that would result in increased maintenance, decreased operational life or decreased safety.
- E. Not cut and patch Work exposed on building's exterior or in occupied spaces, in a manner that would result in lessening building's aesthetic qualities. Do not cut and patch Work in a manner that would result in substantial visual evidence of cut and patch Work. Remove and replace Work judged by the Owner to be cut or patched in a visually unsatisfactory manner.
- F. Where structural members and/or other construction elements penetrate smoke and fire rated assemblies and sound barriers, including walls around and floor below mechanical equipment rooms, provide acoustical fire rated sealant between such Work and barrier to maintain acoustical attenuation, as well as smoke and fire integrity of the barrier.

3.04 PATCHING

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The Contractor will:

- A. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for Work.
- B. Where feasible, inspect and test patched areas to demonstrate integrity of Work.
- C. Restore exposed finishes of patched areas and where necessary extend finished restoration into retained adjoining Work in a manner which will eliminate evidence of patching and refinishing.
- D. Install new products to complete Work in accordance with requirements of Contract Documents.
- E. Where removal of walls or partitions extends one finished area into another finished area, patch and repair floor and wall surfaces in new space to provide an even surface or uniform color appearance. If necessary to achieve uniform color and appearance, remove existing floor and wall coverings and replace with new materials.
- F. Where patch occurs in smooth painted surface, extend final paint coat over entire unbroken surface containing patch, after patched area has received prime and base coat.

3.05 ADJUSTING

The Contractor will:

- A. Restore damaged pipe covering to original conditions.
- B. Remove and replace Work cut and patched in visually unsatisfactory manner.

3.06 CLEANING

The Contractor will:

Thoroughly clean areas and spaces where Work is performed or used as access to Work. Remove paint, mortar, oils, putty, and items of similar nature. Thoroughly clean piping, conduit, and similar features before painting or other finish is applied.

END OF SECTION

SECTION 01050 - FIELD ENGINEERING

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. The Owner may furnish horizontal and vertical monuments, which may be outside the limits of the Project site. The Contractor will preserve all horizontal and vertical control points furnished by the Owner.
- B. The Contractor will:
 - 1. Furnish all lines, grades, and measurements necessary for the proper prosecution and control of the Work under these Contract Documents. The Work will include performing all calculations required and setting all controls needed such as offsets, reference points, and other reference marks or points necessary to provide lines and grades for construction. The Contractor is responsible to maintain these control points for use by subsequent contractors.
 - 2. Establish the building grades, lines, levels, columns, walls and partition lines required.
 - 3. Calculate and measure required dimensions indicated within recognized tolerances.
 - 4. Not scale drawings to determine dimensions.
 - 5. Advise subcontractors performing Work of marked lines and levels provided for use in layout of Work.

1.02 SURVEY

- A. Surveyor:

The Contractor will retain a competent Professional Engineer or Land Surveyor, experienced and specialized in land survey work, registered and licensed by the State of Florida, and acceptable to the Owner, who will establish the exterior lines and required elevations of all buildings and structures to be erected on the Project site and will establish sufficient lines and grades for the construction of associated Work such as, but not limited to, roads, utilities, aircraft aprons, and site grading. The Professional Engineer or Land Surveyor will certify as to the actual location of the constructed facilities in relation to property lines, building lines, easements, and other restrictive boundaries.

- B. Procedures:

The Contractor will:

- 1. Verify layout information indicated in relation to property survey and existing benchmarks before proceeding with layout of actual Work.

2. As Work proceeds, check major element for line, levels, and plumb.
3. Maintain accurate surveyor's log or record book of such checks, available for Owner's reference at reasonable times.
4. Record deviations from required lines and levels.
5. Advise Owner promptly upon detection of deviations exceeding indicated or recognized tolerances.
6. Record deviations which are accepted on Project Record Drawings.

1.03 RECORDS

The Contractor will:

- A. Maintain complete accurate log of control and survey Work as it progresses, updated monthly and accessible to Owner for review on an as needed basis.
- B. Upon completion of foundation walls and major Project site improvements, prepare certified survey showing dimensions, locations, angles, and elevations of construction.
- C. Final Survey:
 1. Immediately before time of Substantial Completion, prepare final survey showing significant features resulting from construction of Project.
 2. Include on survey certification, signed by surveyor, to effect that principal lines and levels of Project are accurately positioned as shown on survey.
- D. Survey Copies:
Furnish electronic copy and one hard copy, if requested by Owner, of the final survey.
- E. Records of Actual Work:
Furnish electronic copy and one hard copy, if requested by Owner, one of which will be returned for inclusion in Project Record Documents as specified in Section 01700 - PROJECT CLOSEOUT.

1.04 UNDERGROUND OBSTRUCTIONS

- A. The Contractor acknowledges that pipe lines, existing underground installation, and underground structures in vicinity of Work are shown on drawings according to best information available.
- B. The Contractor will verify location of underground pipe lines, conduits, and structures by contacting owners of underground utilities and by prospecting in advance of excavation.
- C. The Contractor will secure written permission from proper authority before initiating

new construction over existing utilities. The Contractor will submit copy or original written permission before commencing Work. Furnish release from proper authority before Final Acceptance of Work.

- D. The Contractor will repair cuts to existing utilities made during construction process as part of Project Work to satisfaction of utility Owner, unless otherwise stated in the Contract Documents.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01095 - DEFINITIONS AND STANDARDS

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

A. General:

1. This section specifies procedural and administrative requirements for compliance with governing regulations and the codes and standards imposed upon the Work. These requirements include the obtaining of permits, licenses, inspections, releases and similar requirements associated with regulations, codes and standards.
2. Regulations are defined to include laws, statutes, ordinances, and lawful orders issued by governing authorities, as well as those rules, codes, conventions and agreements within the construction industry which effectively control the performance of the Work, as well as applicable FAA Advisory Circulars, regardless of whether they are lawfully imposed by governing authority or not.
3. Codes, standards and requirements of the Owner are identified within the Contract Documents. Contractor must examine, determine and identify other codes, standards and requirements that may be applicable to the Contractor's Work, such that the intent of the Contract is fully realized.

B. Governing Regulations:

Refer to Section 00700, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, as modified, for requirements related to compliance with governing regulations.

1.02 DEFINITIONS

A. General Requirements:

The provisions or requirements of Division 01 sections apply to the entire Work of this Contract and supplement the requirements in the Contract Documents.

A substantial amount of specification language consists of definitions of terms found in the Contract Documents. Certain terms used in Contract Documents are defined in this section. Definitions and explanation contained in this section are not necessarily either complete or exclusive, but are general for the Work to the extent they are not stated more explicitly in another element of the Contract Documents.

B. Whenever the following terms are used in the Contract Documents or any other documents or instruments pertaining to the construction of this Project, the intent and meaning will be interpreted as follows:

1. AASHTO. The American Association of State Highway and Transportation Officials.

2. ACCESS ROAD. The right-of-way, the roadway and all improvements constructed thereon connecting the airport to a public highway.
3. ADVERTISEMENT. A public announcement, as required by local law, inviting bids for Work to be performed and materials to be furnished. Also referred to as "Invitation to Bid" or "Notice to Bidders."
4. AIR OPERATIONS AREA (AOA). For the purpose of these Specifications, the term AOA means any area of the airport used or intended to be used for the landing, takeoff, or surface maneuvering of aircraft. An AOA includes such paved or unpaved areas that are used or intended to be used for the unobstructed movement of aircraft in addition to its associated runway, taxiway or apron.
5. AIRPORT. Airport means Tampa International Airport.
6. AIRPORT IMPROVEMENT PROGRAM (AIP). The AIP means a grant-in-aid program administrated by the Federal Aviation Administration.
7. APPROVE. Where used in conjunction with Owner's response to submittals, requests, applications, inquiries, reports and claims by the Contractor, the term "approved" will be held to limitations of Owner's responsibilities and duties as specified in the Contract Documents. In no case will "approval" by Owner be interpreted as a release of Contractor from responsibilities to fulfill requirements of the Contract Documents.
8. APM: Automated People Mover. A guided transit mode with fully automated operation, featuring vehicles that operate on guideways with exclusive right-of-way.
9. APM SYSTEM: The vehicles, running surfaces or track, switches, other guideway equipment, active graphics, any platform barrier doors, power distribution, central control, communications, maintenance equipment, and all other equipment, which when integrated results in the operation of the APM trains.
10. APRON. Area where aircraft are parked, unloaded or loaded, fueled and/or serviced.
11. ASTM INTERNATIONAL (ASTM). Formerly known as the American Society for Testing and Materials (ASTM).
12. AWARD. The acceptance by the Owner of the successful Bidder's Bid.
13. BID. The written offer of the Bidder to perform the Work and furnish the necessary materials and labor in accordance with the provisions of the Contract Documents.
14. BID BOND. The security furnished with a Bid to guaranty that the Bidder will enter into a Contract if Bidder's Bid is accepted by the Owner.

15. **BIDDER.** Any individual, partnership, firm or corporation, acting directly or through a duly authorized representative, who submits a Bid for the Work contemplated.
16. **BUILDING AREA.** An area on the airport to be used, considered, or intended to be used for airport buildings or other airport facilities or rights-of-way, together with all airport buildings and facilities located thereon.
17. **CERTIFICATE OF ANALYSIS (COA).** The COA is the manufacturer's Certificate of Compliance (COC) including all applicable test results required by the specifications.
18. **CERTIFICATE OF COMPLIANCE (COC).** The manufacturer's certification stating that materials or assemblies furnished fully comply with the requirements of the contract. The certificate shall be signed by the manufacturer's authorized representative.
19. **CHANGE ORDER.** A written order to the Contractor covering changes in the plans, specifications, or proposal quantities and establishing the basis of payment and contract time adjustment, if any, for work within the scope of the contract and necessary to complete the project.
20. **CONSTRUCTION SCHEDULE.** The Contractor-prepared schedule as adjusted from time to time in accordance with the Contract Documents showing planned and actual progress by items of the Work.
21. **CONTRACT.** A written agreement between the Owner and the Contractor that establishes the obligations of the parties including but not limited to performance of work, furnishing of labor, equipment and materials and the basis of payment.

The awarded contract includes but may not be limited to: Advertisement, Contract form, Proposal, Performance bond, payment bond, General provisions, certifications and representations, Technical Specifications, Plans, Supplemental Provisions, standards incorporated by reference and issued addenda.
22. **CONTRACT ITEM (PAY ITEM).** A specific unit of work for which a price is provided in the contract.
23. **CONTRACT TIME.** The number of calendar days or working days, stated in the proposal, allowed for completion of the contract, including authorized time extensions. If a calendar date of completion is stated in the proposal, in lieu of a number of calendar or working days, the contract shall be completed by that date.
24. **CONTRACTOR.** The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the contract work.

25. CONTRACTORS QUALITY CONTROL (QC) FACILITIES. The Contractor's QC facilities in accordance with the Contractor Quality Control Program (CQCP).
26. CONTRACTOR QUALITY CONTROL PROGRAM (CQCP). Details the methods and procedures that will be taken to assure that all materials and completed construction required by the contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors.
27. CONTROL STRIP. A demonstration by the Contractor that the materials, equipment, and construction processes results in a product meeting the requirements of the specification.
28. CONSTRUCTION SAFETY AND PHASING PLAN (CSPP). The overall plan for safety and phasing of a construction project developed by the airport operator, or developed by the airport operator's consultant and approved by the airport operator. It is included in the invitation for bids and becomes part of the project specifications.
29. DAY. As used in the Contract Documents means calendar day unless otherwise specifically defined.
30. DESIGN PROFESSIONAL: The individual, partnership, firm or corporation duly authorized by the Owner (Sponsor) to be responsible for the architectural and engineering supervision of the contract work and acting directly or through an authorized representative.
31. CONTRACT DOCUMENTS. The Contract Documents consist of the executed Contract between the Owner and Contractor, the Contractor's GMP Proposal as accepted by the Owner, Bonds, Insurance Requirements, the Division 1 Documents, E-Verify Certification and any Contract Modifications issued after execution of the Contract.
32. DIRECTED, REQUESTED, ETC. Where not otherwise explained, terms such as "directed", "requested", "authorized", "selected", "accepted", and "permitted" mean "directed by Owner or Design Professional", "requested by the Owner or Design Professional", and similar phrases. However, no such implied meaning will be interpreted to extend Owner's or Design Professional's responsibility into the Contractor's area of Contractor, including but not limited to construction supervision.
33. DRAINAGE SYSTEM. The system of pipes, ditches, ponds, and structures by which surface or subsurface waters are collected and conducted from the airport area.
34. DRAWINGS. The official Drawings or exact reproductions which show the location, character, dimensions and details of the airport and the Work to be done.
35. ENGINEER. The individual, partnership, firm, or corporation duly authorized by

the Owner to be responsible for engineering, inspection, and/or observation of the contract work and acting directly or through an authorized representative.

36. **EQUIPMENT.** The articles, devices, software, control system, and other assets used to serve a function in the operation of the Project. Also, used to refer to all machinery, together with the necessary supplies for upkeep and maintenance, as well as all tools and apparatus, necessary for the proper construction and acceptable completion of Work.
37. **EXPERIENCED.** The term "experienced" when used with the term "Installer" means having previous projects similar in size and scope to the installation to be performed, being familiar with the procedures required, and having complied with requirements of the authority having jurisdiction.
38. **EXTRA WORK.** An item of Work not provided for in the awarded Contract as previously modified by work order or change order but which is found by the Owner to be necessary to complete the Work within the intended scope of the Contract as previously modified.
39. **FAA (Federal Aviation Administration).** When used to designate a person, FAA means the Administrator or its duly authorized representative.
40. **FAA SUPPLEMENT.** It is understood that federal grant funds may be used in the Project. In the event federal grant funds are used, the Contract Documents will be governed by all applicable rules and regulations of the FAA and U.S. Department of Transportation, as well as applicable requirements incorporated in any grant agreement between the Owner and the FAA with regard to said funding, which requirements are set forth in the attached "FAA Construction Contract Clauses, Airport Improvement Program," and which will be incorporated herein if federal grant funds are utilized.
41. **FEDERAL SPECIFICATIONS.** The Federal Specifications and Standards, and all supplements, amendments and indices thereto as prepared and issued by the General Services Administration of the Federal Government. They may be obtained from the Specifications Unit, 7th and D Street, SW, Washington, DC 20406, Tele: (202) 472-2205 or 472-2140.
42. **FHWA (Federal Highway Administration).** When used to designate a person, FHWA will mean the Administrator or its duly authorized representative.
43. **FORCE ACCOUNT.** Contract Force Account - A method of payment that addresses extra work performed by the Contractor on a time and material basis. Owner Force Account - Work performed for the project by the Owner's employees.
44. **FURNISH.** Except as otherwise defined in greater detail, the term "furnish" is used to mean supply and delivery to Project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance for incorporation and installation into the Work.

45. INDICATED. The term "indicated" is a cross-reference to graphic representations, notes, or schedules on drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in Contract Documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used in lieu of "indicated", it is for the purpose of helping the reader locate the cross-reference, and no limitation of location is intended except as specifically noted.
46. INSPECTOR. An authorized representative of the Owner assigned to make all necessary inspections and/or tests of the Work performed or being performed, or of the materials furnished or being furnished by the Contractor.
47. INSTALL. Except as otherwise defined in greater detail, the term "install" is used to describe operations at the Work site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations, as applicable in each instance, to incorporate the element being installed into the Work.
48. INSTALLER. The term "installer" is the entity (person or firm) engaged by the Contractor, its Subcontractor or Sub-subcontractor for performance of a particular unit of Work at the Project site, including installation, erection, application, and similar required operations. It is a general requirement that such entities (installers) be expert in the operations they are engaged to perform.
49. INTENTION OF TERMS. Whenever, in the Contract Documents, the words "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it will be understood that the direction, requirement, permission, order, designation, or prescription of the Design Professional is intended; and similarly, the words "approved," "acceptable," "satisfactory," or words of like import will mean approved by, acceptable to, or satisfactory to the Design Professional.
- a. Any reference to a specific requirement of a numbered paragraph of the Contract Document or a cited standard will be interpreted to include all general requirements of the entire section, specification item, or cited standard that may be pertinent to such specific reference.
50. LABORATORY. The official testing laboratories of the Contractor or Owner or such other laboratories as may be designated by the Owner.
51. LIGHTING. A system of fixtures providing or controlling the light sources used on or near the airport or within the airport buildings. The field lighting includes all luminous signals, markers, floodlights, and illuminating devices used on or near the airport or to aid in the operation of aircraft landing at, taking off from, or taxiing on the airport surface.
52. MAJOR AND MINOR CONTRACT ITEMS. A major contract item will be any item that is listed in the Bid, the total cost of which is equal to or greater than 20% of the total amount of the awarded Contract. All other items will be considered

minor contract items.

53. MATERIALS. Any substance to be used in the Work.
54. MODIFICATION OF STANDARDS (MOS). Any deviation from standard specifications applicable to material and construction methods in accordance with FAA Order 5300.1.
55. NO EXCEPTIONS TAKEN. The term "No Exceptions Taken" where used in conjunction with the Design Professional's action on the Contractor's submittals, applications, and requests, is limited to the Design Professional's duties and responsibilities as stated in Section 00700, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, as modified.
 - a. Refer to Section 01340 - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES for more specific information.
56. NOT APPROVED. Where used in conjunction with the Design Professional's response to submittals, requests, applications, inquires, reports, and claims by the Contractor, indicates that the item or material is unsatisfactory, and must be revised, new material prepared in accordance with notations, and the item or material resubmitted. Material marked in this manner will not be released for any Work.
57. NOTE MARKINGS. Where used in conjunction with the Owner's response to submittals, requests, applications, inquires, reports, and claims by the Contractor, "Note Markings" indicates that the item or material submitted is approved subject to corrections noted. Correction and re-submittal of the item is not required unless specifically called for in the notations. Approval of Contractor's submitted item does not constitute approval of the design. Approval does not permit any deviation from the Contractor's requirements and does not relieve the Contractor of the responsibility for errors or deficiencies in design, dimension, details, or for coordinating installation and/or construction with actual conditions at the Project site.
58. NOTICE TO PROCEED (NTP). A written notice to the Contractor to begin the actual Contract Work. If applicable, the NTP will state the date on which the Contract Time begins.
59. OWNER (SPONSOR). The term Owner or Sponsor will mean the party of the first part or the contracting agency signatory to the Contract. The Hillsborough County Aviation Authority is the Owner, and will include its agents, employees, representatives and contractors when acting at its direction or on its behalf. The Hillsborough County Aviation Authority is also referred to as the "Owner" in these Contract Documents. For AIP Contracts, the term Sponsor will have the same meaning as the term Owner.

60. PAVEMENT. The combined surface or friction course, structural course, base course, and sub-base course, if any, considered as a single unit.
61. PAYMENT BOND. The approved form of security furnished by the Contractor and Contractor's surety as a guaranty that the Contractor will pay in full all bills and accounts for material and labor used in the construction of the Work under the contract.
62. PERFORMANCE BOND. The approved form of security furnished by the Contractor and Contractor's surety as a guaranty that the Contractor will complete the Work in accordance with the terms of the Contract and will complete the guarantee of the Work specified therein.
63. PLANS. The official drawings or exact reproductions which show the location, character, dimensions and details of the airport and the work to be done and which are to be considered as a part of the contract, supplementary to the specifications. Plans may also be referred to as 'contract drawings.'
64. PROJECT. The Work defined in the Contract Documents.
65. PROJECT SITE. The term "Project Site" is defined as the space available to the Contractor for performance of the Work, either exclusively or in conjunction with others performing other Work, as part of the Project. The extent of the Project Site may or may not be identical with the description of the land upon which the Project is to be built but it is within or near Tampa Executive Airport.
66. PROPOSAL. The written offer of the bidder (when submitted on the approved proposal form) to perform the contemplated work and furnish the necessary materials in accordance with the provisions of the plans and specifications.
67. PROPOSAL GUARANTY. The security furnished with a proposal to guarantee that the bidder will enter into a contract if their own proposal is accepted by the Owner.
68. PROVIDE. Except as otherwise defined in greater detail, the term "provide" means furnish and install, complete, and ready for intended use, as applicable in each instance.
69. QUALITY ASSURANCE (QA). Owner's responsibility to assure that construction work completed complies with specifications for payment.
70. QUALITY CONTROL (QC). Contractor's responsibility to control material(s) and construction processes to complete construction in accordance with project specifications.
71. QUALITY ASSURANCE (QA) INSPECTOR. An authorized representative of the Engineer and/or Resident Project Representative (RPR) assigned to make all necessary inspections, observations, tests, and/or observation of tests of the work performed or being performed, or of the materials furnished or being furnished by the Contractor.

72. QUALITY ASSURANCE (QA) LABORATORY. The official quality assurance testing laboratories of the Owner or such other laboratories as may be designated by the Engineer or RPR. May also be referred to as Engineer's, Owner's, or QA Laboratory.
73. RESIDENT PROJECT REPRESENTATIVE (RPR). The individual, partnership, firm, or corporation duly authorized by the Owner to be responsible for all necessary inspections, observations, tests, and/or observations of tests of the contract work performed or being performed, or of the materials furnished or being furnished by the Contractor, and acting directly or through an authorized representative.
74. RETENTION. Retention (or Retainage) is the amount of compensation for Work accomplished by the Contractor which is retained by the Owner to be paid to the Contractor as specified herein.
75. RUNWAY. The area on the airport designated for the landing and takeoff of aircraft.
76. RUNWAY SAFETY AREA (RSA). A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft. See the construction safety and phasing plan (CSPP) for limits of the RSA.
77. SAFETY PLAN COMPLIANCE DOCUMENT (SPCD). Details how the Contractor will comply with the CSPP.
78. SHOP DRAWINGS. All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the Contractor, a subcontractor, manufacturer, supplier or distributor and which illustrate the equipment, material or some portion of the Work.
79. SHUTTLE. A guided transit mode with fully automated operation, featuring vehicles that operate on guideways between the Main Terminal and Airsides
80. SPECIFICATIONS. A part of the Contract Documents containing the written directions and requirements for completing the Contract Work. Standards for specifying materials or testing which are cited in the Contract Specifications by reference will have the same force and effect as if included in the Contract physically.
81. SPONSOR. See "Owner".
82. STRUCTURES. Airport facilities such as buildings, aprons, bridges, culverts, catch basins, inlets, retaining walls, cribbing, storm and sanitary sewer lines, waterlines, underdrains, electrical ducts, manholes, handholes, lighting fixtures and bases, transformers, flexible and rigid pavements, navigational aids, buildings, vaults, and other manmade features of the airport that may be encountered in the Work and not otherwise classified herein.

83. SUBGRADE. The soil which forms the pavement foundation.
84. SUPERINTENDENT. The Contractor's executive representative who is present on the Work during progress, authorized to receive and fulfill instructions from the Owner, and who will supervise and direct the construction.
85. SUPPLEMENTAL CONTRACT. A written agreement between the Contractor and the Owner covering (1) Work that would increase or decrease the total amount of the awarded Contract, or any major Contract item, by more than 25%, such increased or decreased work being within the scope of the originally awarded Contract; or (2) Work that is not within the scope of the originally awarded Contract.
86. SURETY. The corporation, partnership, or individual, other than the Contractor, executing Payment and Performance Bonds which are furnished to the Owner by the Contractor.
87. TAXILANE. A taxiway designed for low speed movement of aircraft between aircraft parking areas and terminal areas.
88. TAXIWAY. The portion of the AOA of an airport that has been designated by the airport authority for movement of aircraft to and from the airport's runways or aircraft parking areas.
89. TAXIWAY/TAXILANE SAFETY AREA (TSA). A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft. See the construction safety and phasing plan (CSPP) for limits of the TSA.
90. TESTING LABORATORIES. An independent entity engaged to perform specific inspections or tests of the Work, either at the Project site or elsewhere, and to report and (if required) interpret results of those inspections or tests.
91. TRADES. Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
92. UNIT PRICE. Cost per unit of Work.
93. WORK. The construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

94. WORKING DAY. A working day shall be any day other than a legal holiday, Saturday, or Sunday on which the normal working forces of the Contractor may proceed with regular work for at least six (6) hours toward completion of the contract. When work is suspended for causes beyond the Contractor's control, it will not be counted as a working day. Saturdays, Sundays and holidays on which the Contractor's forces engage in regular work will be considered as working days.

1.03 SPECIFICATION FORMAT AND CONTENT EXPLANATION

A. General:

1. This article is provided to help the user of the Specifications to more readily understand the format, language, implied requirements and similar conventions of content. None of the following explanations will be interpreted to modify the substance of the Contract requirements.

B. Specification Content:

1. The Project Specifications and the Contract Documents have been produced employing certain conventions in the use of language as well as conventions regarding the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
- a. In certain circumstances, the language of the Specifications and other Contract Documents is of the abbreviated type. It implies words and meanings that will be interpreted as plural. Plural words will be interpreted as singular where applicable and where the full context of the Contract Documents so indicates.
 - b. Imperative Language is used generally in the Specifications. Requirements expressed imperatively are to be performed by the Contractor. At certain locations in the text, for clarity, contrasting subjective language is used to describe responsibilities which must be fulfilled indirectly by the Contractor or by others when so noted.

1.04 INDUSTRY STANDARDS

A. Applicability of Standards:

Except where more explicit or stringent requirements are written into the Contract Documents, applicable industry standards have the same force and effect as if bound into or copied directly into the Contract Documents. Such industry standards are made a part of the Contract Documents by reference. Contractor shall keep available copies of all applicable codes and standards at locations where Work is being performed, including the Project Site.

B. Publication Dates:

Except as otherwise indicated, where compliance with an industry standard is required, comply

with standard in effect as of date of Contract Documents.

C. Conflicting Requirements:

Where compliance with two or more standards is specified, and where these standards establish different or conflicting requirements, the Contractor shall call the conflict to the Owner's attention and the most stringent requirement will be enforced as determined by the Owner.

D. Copies of Standards:

1. The Contract Documents require that each entity performing Work be experienced in that part of the Work being performed. Each entity is also required to be familiar with industry standards applicable to that part of the Work. Copies of applicable industry standards are not bound with the Contract Documents.
 - a. Where copies of industry standards are needed for proper performance of the Work, the Contractor is required to obtain such copies directly from the publication source.
 - b. Although certain copies of industry standards needed for enforcement of the requirements may be required submittals, the Owner reserves the right to require the Contractor to submit additional copies of these standards as necessary for enforcement of requirements.

E. Abbreviations and Names:

Trade association names and titles of general standards are frequently abbreviated. Where acronyms or abbreviations are used in the Specifications or other Contract Documents they are defined to mean the recognized name of the trade association, standards generating organization, governing authority or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co.

F. Comply with applicable standards for work promulgated by organizations, associations, institutes, societies, boards and generally recognized organizations including but not limited to:

Acoustical Materials Association.....	AMA
Air Conditioning & Refrigeration Institute.....	ARI
Air Moving & Conditioning Association.....	AMCA
Aluminum Association.....	AA
American Association of State Highway and Transportation Officials	AASHTO
American Concrete Institute.....	ACI
American Gas Association.....	AGA
American Institute of Steel Construction.....	AISC
American National Standards Institute.....	ANSI
American Petroleum Institute.....	API

American Plywood Association.....	APA
American Society for Testing and Materials.....	ASTM
American Society of Heating, Refrigerating & Air Conditioning Engineers.	ASHRAE
American Water Works Association.....	AWWA
American Welding Society.....	AWS
American Wood Preservers Bureau.....	AWPB
Architectural Precast Association.....	APA
Architectural Woodworking Institute.....	AWI
Cast Iron Pipe Research Association.....	CIPRA
Concrete Reinforcing Steel Institute.....	CRSI
Contracting Plasterers and Lathers International Association.....	CPLIA
Factory Mutual Engineering Corporation.....	FM
	FED.
Federal Specifications.....	SPEC.
Flat Glass Jobbers Association.....	FGJA
Gypsum Association.....	GA
Industrial Power Cable Engineers Association.....	IPCEA
Institute of Boiler & Refrigeration.....	IBR
Institute of Electrical & Electronic Engineers.....	IEEE
Joint Industry Council.....	JIC
Metal Lath Manufacturers Association.....	MLMA
Metal Lath/Steel Framing Association.....	ML/SFA
Military Specifications.....	MIL. SPEC.
National Association of Architectural Metal.....	NAAM
National Bureau for Lathing and Plastering.....	NBLP
National Concrete Masonry Association.....	NCMA
National Electric Code.....	NEC
National Electrical Manufacturers Association.....	NEMA
National Fire Protection Association.....	NFPA
National Lumber Manufacturers Association.....	NLMA
National Roofing Contractors Association.....	NRCA
National Terrazzo & Mosaic Association.....	NTMA
National Woodwork Manufacturers Association.....	NWMA
Portland Cement Association.....	PCA
Post-Tensioning Institute.....	PTI
Precast Concrete Institute.....	PCI
Product Standards.....	PS
Research Council on Riveted and Bolted Structural Joints.....	RCRBSJ
Rubber Manufacturer's Association.....	RMA
Sealing and Waterproofers Institute.....	SWI
Sheet Metal & Air Conditioning Contractors National Assoc.....	SMACNA
Southern Pine Inspection Bureau.....	SPIB
Steel Boiler Institute.....	SBI
Steel Door Institute.....	SDI

Steel Joist Institute.....	SJI
Steel Structures Painting Council.....	SSPC
Stucco Manufacturer's Association.....	SMA
Tile Council of America.....	TCA
Tubular Exchange Manufacturers Association.....	TEMA
Underwriter's Laboratories.....	UL
United States Department of Commerce - Commercial Standards.....	CS
United States Department of Commerce – Products Standards	PS
United States Gypsum Company.....	USG
United States Postal Service.....	USPS
Vermiculite Institute.....	VI
Warnock Hersey.....	WH
West Coast Lumber Inspection Bureau.....	WCLIB

- G. Where more than one quality or requirement is set forth in such standards and reference is not made in these Specifications to which specific quality or requirement is intended, the conflict shall be brought to the attention of the Owner who will determine which one to follow. The Contractor will be deemed to have bid the most stringent and furnished the most stringent. Where under such standards options occur, the Owner will be called upon to designate which applies.
- H. No provisions of any referenced standard, specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) will be effective to change the duties and responsibilities of the Owner, Contractor or any of their consultants, agents or employees, from those set forth in the Contract Documents, nor will it be effective to assign to the Owner any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of the Contract Documents.

1.05 CODES/MANUFACTURER'S RECOMMENDATIONS

- A. Applicable code requirements are included herein by this reference. However, such are minimum criteria and no reduction from Drawings or Specifications will be permitted, even if allowed by applicable code.
- B. Electrical and mechanical apparatus, fixtures and equipment will bear approved device label of Underwriter's Laboratories.
- C. The local building code and the Florida Building Code (Latest Edition) apply to all Work. In the event a conflict occurs between the local and Florida Building Codes, the greater requirements will govern. The Contractor shall call to the attention of the Owner any conflict which may arise due to revisions to codes and regulations subsequent to the Contract Date.
- D. Specifically, comply with following codes and regulations:
 - .1. Florida Building Code, Latest Edition.

2. Florida Plumbing Code, Latest Edition.
3. Florida Mechanical Code, Latest Edition.
4. Florida Fire/Gas Code, Latest Edition.
5. Local Building Code.
6. Local Public Utility regulations.
7. City of Tampa Water Department "Developer-Install" Manual.
8. City of Tampa Department of Sanitary Sewer Developer Review Package.
9. National Standard Plumbing Code.
10. National Electric Code (NEC).
11. ASME Code for unfired pressure vessels.
12. Building exits code (life safety code), NFPA 101.
13. Standards of National Board of Fire Underwriters.
14. ASHRAE Safety Code for Mechanical Refrigeration.
15. National Fire Codes.
16. National Fire Protection Association.
17. Occupational Safety and Health Administration (OSHA).
18. International Council of Building officials.
19. Housing and Urban Development.
20. Council of American Building Officials.
21. ANSI A17.1-1987 Safety Code for Elevators and Escalators.
22. American National Standards Institute (ANSI).
23. Florida Department of Environmental Regulation.
24. United States Environmental Protection Agency.
25. Americans with Disabilities Act (ADA).
26. Hillsborough County Environmental Protection Commission.
27. Florida Department of Transportation (FDOT).
28. Federal Aviation Administration (FAA)(Including, but not limited to applicable Advisory Circulars.) applicable Advisory Circulars.)

- E. Comply with recommendations of pertinent manufacturer to achieve first quality work.

1.06 ABBREVIATED SPECIFICATIONS

- A. In order to shorten these Specifications, certain terminology and form common in specification writing is employed. The following words are often omitted when meaning remains clear without the same, i.e., "the," "the Contractor will," "of," "a," "will comply with," etc.
- B. Uses of a period or colon after a general mention of a material lists means "will be," or "will comply with." Example:

"Portland Cement: ASTM C 150, Type 1."

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01110 - AIRPORT PROJECT PROCEDURES

PART 1 - GENERAL

1.01 AIRPORT OPERATIONS

Airport operations will be maintained throughout this Contract. The Contractor will in no way curtail or handicap normal operational characteristics of the airport facility except as specifically indicated and specified in these Contract Documents.

1.02 PERMITS, LICENSES AND TAXES

- A. Contractor will be required to procure and pay for all permits, licenses, fees, duties and taxes and arrange for all inspections and similar procedural items as required by the authorities having jurisdiction.
- B. The Contractor will procure all necessary and required permits and licenses, including batch plant permit(s), pay all charges, fees and taxes and give all notices necessary and incidental to the due and lawful prosecution of the Work so as not to delay the completion of the Project. No extensions of Contract for the foregoing will be granted. The Contractor's claim that insufficient Contract Time was specified will not be a valid reason for extension of Contract Time. No extensions of Contract Time for completion will be granted for failure to timely procure all necessary and required permits and licenses, including Cutting & Welding permits, batch plant permit(s), or failure to pay all charges, fees and taxes, or failure to give all notices timely.

1.03 VERIFICATION OF EXISTING CONDITIONS

Prior to bidding and commencing with construction, the Contractor will familiarize themselves with the existing conditions of the Project and requirements of the Contract Documents. Should the Contractor discover any inaccuracies, errors, or omissions between the actual existing conditions and the Contract Documents, Contractor will within 7 calendar days from the time it was discoverable notify the Owner in writing or otherwise Contractor will be deemed to have waived any claim arising therefrom. Submission of Bid by the Contractor will be held as an acceptance of the existing conditions and the requirements of the Contract Documents by the Contractor.

1.04 MAINTENANCE OF TRAFFIC

- A. It is the explicit intention of the Contract that the safety of aircraft, as well as the Contractor's equipment and personnel, is the most important consideration. It is understood and agreed that the Contractor will provide for the free and unobstructed movement of aircraft in the AOA of the Airport, including approach and departure surfaces, with respect to Contractor's own operations and the operations of all Contractor's subcontractors. It is further understood and agreed that the Contractor will provide for the uninterrupted operation of visual and electronic signals (including power supplies thereto) used in the guidance of aircraft while operating to, from, and upon the airport.
- B. The cost of maintaining the aircraft and vehicular traffic will be borne by the Contractor

as part of its Work and is included in the Contract Sum Bid Amount.

- C. The Contractor will not prevent public traffic from using active aviation and public areas in and around the Airport. The Work will be coordinated with the Owner and other agencies having an interest in the capability of the Airport and will be programmed and stated accordingly so that public traffic may be routed over partially completed Work. Appropriate safety precautions will be provided by the Contractor to protect employees, the public and the Work.
- D. Should it be necessary for the Contractor to complete portions of the Contract Work for the beneficial occupancy of the Owner prior to completion of the whole Work, such "phasing" of the Work will be specified herein and indicated on the Drawings. When so specified, the Contractor will complete such portions of the Work on or before the date specified or as otherwise specified.
- E. If the Contractor, with the concurrence of the Owner, elects to complete one increment of Work prior to completion of the whole Work, the Owner may accept the Work for beneficial occupancy. Upon completion of any portion of the Work listed above, such portion will be accepted by the Owner in accordance with the Contract.
- F. No portion of the Work may be opened by the Contractor for public use until ordered by the Owner in writing. Should it become necessary to open a portion of the Work to public traffic on a temporary or intermittent basis, such openings will be made when, in the opinion of the Owner, such portion of the Work is in an acceptable condition to support the intended traffic. Temporary or intermittent openings are considered to be inherent in the Work and will not constitute either acceptance of the portion of the Work so opened or a waiver of any provision of the Contract. Any damage to the portion of the Work so opened that is not attributable to traffic which is permitted by the Owner will be repaired by the Contractor at Contractor's expense.
- G. The Contractor will make its own estimate of the inherent difficulties involved in completing the Work under the conditions herein described and will not claim any added compensation by reason of delay or increased cost due to opening a portion of the Contract Work.
- H. When the Work is in or near vehicular traffic and pedestrian areas, the Contractor will arrange the Work so as to avoid disruption of normal traffic patterns. The Contractor will provide, erect and maintain effective barricades, danger signals, signs and equipment to provide protection of the Work and the safety of the public throughout the area in accordance with the "FDOT Roadway and Traffic Design Standards."
- I. The Contractor will maintain traffic within the limits of the Project for the duration of the construction period, including all temporary suspensions of Work. It will include the construction and maintenance of all necessary detour facilities; the furnishing, installing and maintaining of traffic control and safety devices during construction; the control of dust; and any other special requirements for safe and expeditious movement of aircraft, vehicular traffic and pedestrians. Before contracting with any outside agency for a uniformed law enforcement officer to assist in the maintenance of traffic, the Contractor will first coordinate availability of Tampa International Airport Police with the Police Department dispatch office at (813) 870-8760.

1. Beginning Date of Contractor's Responsibility: The Contractor's responsibility for maintenance of traffic will begin on the day Contractor starts Work on the Project at the Project site and will continue until the date of Final Acceptance of the Work.
 2. Number of Traffic Lanes: Unless otherwise specified, the Contractor will close no more than one lane on each roadway and ramp. Unless otherwise specified, the effective width of each lane used for maintenance of traffic will be at least as wide as the traffic lanes existing in the area prior to commencement of construction. Traffic control and warning devices will not encroach on lanes used for maintenance of traffic. All closures on any traffic lanes will be coordinated with the Owner a minimum of seven calendar days prior to any closure.
 3. High Traffic Areas: When the Work is in or near vehicular traffic and pedestrian areas, arrange the Work so as to avoid disruption of normal traffic patterns. Provide, erect and maintain effective barricades, variable message boards, danger signals, signs and equipment to provide protection of the Work and the safety of the public throughout the area.
- J. The Contractor will be responsible for performing daily inspections, including weekends and holidays with some inspections at night time, of the installations on the Project and replacing all equipment and devices not conforming to the approved standards during that inspection. The Owner will be advised of the schedule of these inspections and be given the opportunity to join in the inspection as deemed necessary.
- K. Sections Not Requiring Traffic Maintenance: Contractor will not be required to maintain traffic over those portions of the Project where no Work is to be accomplished or where construction operations will not affect existing roads. Contractor, however, will not obstruct nor create a hazard to any traffic during the prosecution of the Work and will be responsible for repair of all damage to existing pavement or facilities caused by Contractor's operations.
- L. Traffic Plan: If applicable, the Contractor will present its Maintenance of Traffic Plan at the Pre-construction Conference/meeting. Maintenance of Traffic Plan will be in written form and include plan sheets which indicate the type and location of all signs, lights, barricades, variable message boards, arrow boards, striping and barriers to be used for the safe passage of pedestrians, vehicular and aircraft traffic through the Project. The plan will indicate conditions and set-up for each phase of the Contractor's activities. In no case may the Contractor begin Work until the Maintenance of Traffic Plan has been approved in writing by the Owner. Modifications to the Maintenance of Traffic Plan that may become necessary will also be approved in writing. Except in an emergency, no changes to the approved Maintenance of Traffic Plan will be allowed until approval of the change has been received.
- M. Traffic During Construction: All construction vehicles are required to use existing public traffic routes. Normal public traffic lanes are not to be used as staging areas for arriving delivery vehicles. The Contractor's employees will utilize the designated Contractor employee parking area.

1. Adequate accommodations for intersecting and crossing traffic will be provided and maintained and, except where specific permission is given, no road or street crossing the Project will be blocked or unduly restricted.
- N. The “FDOT Roadway and Traffic Design Standards” manual sets forth the basic principles and prescribes minimum standards to be followed in the design, application, installation, maintenance, and removal of all traffic control devices and all warning devices and barriers which are necessary to protect the public and workers from hazards within the Project limits. The standards established in the aforementioned manual constitute the minimum requirements for normal conditions and additional traffic control devices, warning devices, barriers or other safety devices will be required where unusual, complex or particular hazardous conditions exist.
- O. Installation: The responsibility for installation and maintenance of adequate traffic control devices, warning devices and barriers for the protection of the public and workers, as well as to safeguard the Work, will rest with the Contractor. The required traffic control devices, warning devices and barriers will be erected by the Contractor prior to creation of any hazardous condition and in conjunction with any necessary re-routing of traffic. The Contractor will immediately remove, turn or cover any devices or barriers which do not apply to existing conditions.
1. The Contractor will make the Owner aware of any scheduled operation which will affect patterns or safety sufficiently in advance of commencing such operation to permit Owner’s review of the plan for installation of traffic control devices or barriers proposed by the Contractor.
 2. The Contractor will assign one of its employees the responsibility of maintaining the position and condition of all traffic control devices, warning devices and barriers throughout the duration of the Contract including holidays and blackout periods. The Owner will be kept advised at all times as to the identification and means of contacting this employee on a 24 hour basis.
- P. Furnishing of Devices and Barriers: All traffic control devices including signs, warning devices, variable message boards, arrow boards, and barriers will be furnished by the Contractor.
1. The Contractor will furnish and erect all barricades, warning signs, and markings for hazards prior to commencing Work which requires such erection and will maintain the barricades, warning signs, and markings for hazards until their dismantling is directed by the Owner.
- Q. Maintenance of Devices and Barriers: Traffic control devices, warning devices, and barriers will be kept in the correct position, properly directed, clearly visible and clean, at all times. Damaged, defaced or dirty devices or barriers will immediately be repaired, replaced or cleaned as directed.
- R. Flagger: The Contractor will provide competent flagger to direct traffic where one-way operation in a single lane is in effect and in other situations as may be required by the standards established herein.

- S. Contractor Signing: The Contractor may furnish and install construction traffic directional signs along the existing traffic route. The signs will depict Contractor's logo or name, directional arrows and "deliveries". Signs will be of sufficient size to have 6" high lettering and will be located at each decision point. All signs and their locations will be approved by the Owner. NO OTHER SIGNS ARE PERMITTED ON OWNER PROPERTY. There will be no writing or signing on printed screen fences.
- T. Material Deliveries: The Contractor will make its own material and equipment deliveries. No deliveries will be made by vendors or suppliers without escort by a representative of the Contractor.
1. All trash is to be sealed and tied down in such a manner that it will not dirty the floor. The removal, in dustproof sealed containers, of debris will be scheduled the same as deliveries. Specific requirements will be covered at the Preconstruction Conference.
- U. Elevator Use: Existing passenger elevators and escalators will not be used. However, the existing "Service Elevator" may be used if requested.
- V. All dollies, floats, or other conveyances used for debris removal will be rubber tired, box type, and lined with plastic barrier to prevent debris falling from the cart. All carts are to be loaded within the confines of the dust barrier. Transport of debris through public spaces, if permitted, will be made only after coordination of times and routes with the Owner.
- W. Notification: On days when construction traffic is expected to be extra heavy or when oversized pieces of equipment are to be delivered, give the Owner a minimum of 72 hour notice prior to the event.
- X. Interference Request:
1. The Contractor will be responsible for notifying the Owner in writing of, and securing approval for, any and all interruptions or interference with traffic (pedestrian, automobile), or other necessary function of the Airport or any of the airlines.
 2. The request will include a traffic control plan indicating barricades, arrow boards, variable message boards, lighting and flagmen where required.
 3. Such notification will be made as soon as possible but in no case less than 48 hours prior to the interference.
 4. The Contractor should utilize a standard Maintenance / Construction Notification (MCN) form addressed to the Owner with a blank space for a description of the interference, the exact area affected, map of the location, and the exact times and dates the interference will take place and blanks for Owner's approval. The forms will be submitted in electronic format. No interference will be allowed until the Contractor has received back a copy of the approved interference request form.

Y. Personnel Traffic:

1. General: All construction personnel will be restricted to construction areas. They will wear shirts with sleeves and long pants at all times.
2. Walkways: When walking from the Contractor's parking lot to the job site, existing walkways and crossings will be used. The Contractor will not use vehicle traffic lanes as walkways.
3. Elevators/Escalators: Existing elevators and escalators will not be used at any time for the transporting of construction personnel or construction materials. The entry to all elevators will not be blocked at any time.
4. Use of Public Areas: The Contractor's workers will not utilize public areas for taking their "work breaks" or "lunch breaks." Areas for this purpose can be designated by the Owner upon request. No public toilets will be used by any workers at any time.
5. Use of Restaurants: The Contractor 's workers will not use restaurants, lounges or other concession areas within the Airport, unless approved by the Owner.

Z. Character of Workers:

1. The Contractor will, at all times, employ sufficient labor and equipment for prosecuting the Work to full completion in the manner and time required by the Contract Documents.
2. All workers will have sufficient skill and experience to properly perform the Work assigned to them. Workers engaged in special Work or skilled Work will have sufficient experience in such Work, and in the operation of the equipment required, to perform the Work satisfactorily. This includes proper certification or training for equipment operators. Upon request by the Owner, the Contractor shall supply copies of all certification or training certificates.
3. The failure to provide adequate labor and equipment may be considered cause for terminating the Contract.
4. Any person employed by the Contractor or a subcontractor who, in the opinion of the Owner, does not perform their Work in a proper and skillful manner or is intemperate or disorderly, will, at the written request of the Owner, be removed forthwith by the Contractor or subcontractor employing such person and will not be employed again in any portion of the Work without the approval of the Owner.
5. Should the Contractor or subcontractor fail to remove such person or persons or fail to furnish suitable and sufficient personnel for the proper prosecution of the Work, the Owner may suspend the Work by written notice until compliance with such orders.

6. No firearms are permitted on Project site at any time.

1.05 METHODS AND EQUIPMENT

- A. All equipment which is proposed to be used on the Work will be of sufficient size and in such mechanical condition as to meet requirements of the Work and to produce a satisfactory quality of Work. Equipment used on any portion of the Work will be such that no injury to previously completed Work, adjacent property, or existing Airport facilities will result from its use.
- B. When the methods and equipment to be used by the Contractor in accomplishing the Work are not prescribed in the Contract, the Contractor is free to use any methods or equipment that will accomplish the Work in conformity with the requirements of the Contract Documents.
- C. When the Contract specifies the use of certain methods and equipment, such methods and equipment will be used unless others are authorized by the Owner. If the Contractor desires to use a method or type of equipment other than specified in the Contract, Contractor may request approval from the Owner to do so. The request will be in writing and will include a full description of the methods and/or equipment proposed and the reasons for desiring to make the change. If approval is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with the Contract Documents. If, after trial use of the substituted methods or equipment, the Owner determines that the Work produced does not meet the Contract Documents, the Contractor will discontinue the use of the substitute method or equipment and will complete the remaining Work with the specified methods and equipment.
- D. The Contractor will remove any deficient Work and replace it with Work of specified quality, or take such other corrective action as the Owner may direct. No change will be made in basis of payment for items in the Contract involved or in Contract Time as a result of authorizing a change in methods or equipment under this Section.

1.06 HOURS OF WORK

- A. Work hours will comply with the Project Schedule requirements specified in Section 01315 - SCHEDULES, PHASING. In addition, the following limitations apply:
 1. Work may proceed at any time (24 hours a day) unless otherwise indicated on Drawings with the following exceptions (all hours subject to Owner approval).
 2. Holiday blackout periods
 - a. FAA Moratorium at Thanksgiving: Saturday in November before Thanksgiving through 4th Monday in November following Thanksgiving. No work allowed near navigational aid critical areas and working in proximity to FAA cables. No runway closures.
 - b. FAA Moratorium at Christmas: 3rd Saturday in December until January 2.

No work allowed near navigational aid critical areas and working in proximity to FAA cables. No runway closures.

c. Spring Break: Second week in March through mid-April. No runway closures.

d. All three blackout periods noted above will have limited or restricted work hours throughout the campus. Work shall not impact the normal operations of the airport. Close coordination and Owner approval will be required for all work activities during these time periods.

3. Disruptive Work will be defined as any activity (including excessive noise, air pollution [dust, etc.] and similar events) that adversely disrupts, hinders or impacts normal Airport operations. These activities will be conducted so as not to interfere with the normal operation of the Airport. Work which may be considered disruptive will be conducted by the Contractor during middle of the night hours as designated by the Owner. When directed by the Owner to cease Disruptive Work, the Contractor will immediately suspend and discontinue the Disruptive Work. Work will not be resumed until directed by the Owner. Contractor's claim for additional cost or additional Contract Time for suspending Disruptive Work will not be accepted.

1.07 DAILY CLEAN-UP AND TRASH REMOVAL

A. Debris from Work will be promptly removed from the Project site at least daily. Debris will not be allowed to become a hazard to the safety of the public. Areas occupied by the Owner and Building Tenants will be kept clean at all times.

B. The Contractor will be responsible for clean-up and trash removal. Accumulation of trash and debris will not be allowed and the Owner may at any time direct the Contractor to immediately remove its trash and debris from the site of the Work when, in the opinion of the Owner, such trash constitutes a nuisance or in any way hinders the Work or the Airport's operations. If the Contractor should fail to remove its trash and debris from the site of the Work in a timely manner, the Owner may have this Work performed and deduct the cost of such from Contractor's payment.

1.08 CLEANING AND PROTECTION

A. General: During all Work at the Project Site, clean and protect Work in progress and adjoining Work on the basis of continuous daily maintenance. Apply protective covering on installed Work to ensure freedom from damage or deterioration.

B. Clean and perform maintenance on installed Work as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

C. Limiting Exposures of Work: To the extent possible through appropriate control and protection methods, supervise performance of the Work in such a manner and by such means which will ensure that none of the Work, whether completed or in progress, will be subjected to harmful, dangerous, damaging or otherwise deleterious exposure

during the construction period. Such exposures include, where applicable, but are not limited to, the following:

1. Excessive static or dynamic loading.
 2. Excessive internal or external pressures.
 3. Excessive electrical loading.
 4. Solvents.
 5. Chemicals.
 6. Light.
 7. Puncture.
 8. Abrasion.
 9. Heavy Traffic.
 10. Soiling.
 11. Combustion.
 12. High speed operation, improper lubrication, unusual wear.
 13. Improper shipping or handling.
 14. Theft.
 15. Vandalism.
- D. Protection at Openings: Contractor will provide protection at all openings in structures and finishes to maintain the building weather and dust tight. All protection will be of solid material and substantial so that it will not be disturbed by wind and weather normal to the area and season, and will also be tight fitting to prevent noise infiltration.
- E. Protection of Improvements:
1. Damage to Existing Facilities: Existing surfaces and materials of the Owner's property not requiring work by the Contract Documents that are damaged by the Contractor's operations will be immediately repaired. Repaired surfaces and materials will match existing adjacent undamaged surfaces and materials. Repair work will be coordinated with the Owner with regards to time and method.
 2. All roads used by the Contractor during construction will be restored and/or replaced to their original condition.

3. Accidental Demolition: All structures or parts thereof that may become damaged due to accident or Contractor's error will be restored to their original condition at no cost to the Owner. Materials and equipment being used in the repair or replacement resulting from damage will be new and will perform at the manufacturer's published capacities. If the existing equipment or materials cannot be identified, or if unavailable, the selection of the replacement will be subject to approval by the Owner in writing.
4. Flooring: Where new carpeting, tile, terrazzo, or other flooring material has been installed, Contractor will fully protect such flooring from all damage and staining by Contractor's forces and the Owner may deduct from the Contractor's Contract Sum such sums as may be necessary to cover the cost of repairing and replacing such new flooring.

F. Owner's - Standards of Construction:

1. Hazardous Materials:

- a. Any product or material that contains asbestos material will not be permitted on this project.
- b. Any paint containing lead will not be used on this project.
- c. Any product or material that contains per- and polyfluoroalkyl substances (PFAS) will only be permitted on this project if the Contractor prepares an alternatives analysis to determine if a non-PFAS alternative product or material is viable. If a non-PFAS alternative is determined to be viable, it will be used pending Authority review and approval of the alternatives analysis. No additional costs will be considered for the alternatives analysis or the incorporation of the non-PFAS alternative. After October 4, 2021, construction products or material containing PFAS will not be permitted on this project.

2. Building:

- a. Materials and finishes used in the Work will have a fire rating at least equal to the rating required for the type of space in which the Work is to be performed.
- b. No work will be performed which, when complete, will result in the degradation of the fire rating for the space.
- c. Any penetration of existing ceilings or walls which will break the fire rating of the ceiling or wall will be patched to obtain the same fire rating and to the satisfaction of the Owner.
- d. Any ceiling access panel now existing will remain in its present location and cannot be covered in a manner to prevent access.
- e. Any ceiling, other than Contractor's own space, that must be accessed

or crossed from above will be done only with prior permission of the Owner.

f. Wood framing is prohibited for partitioning.

G. Overhead Protection:

1. No cranes with or without loads or other construction equipment will cross over non-construction personnel, their travel ways which include but are not limited to, walkways, roadways, or passenger transfer system tracks.
2. The plan of operation of cranes and other hoisting equipment will be established in writing by the Contractor. This plan of operation will be subject to review by the Owner.
3. Specific areas affected by construction may require protective covering. These protection coverings will be adequate to insure the protection of life and property and the continuous operation of the Airport. The layout and location of the protective systems will be subject to review and rejection by the Owner. Structural integrity of protection systems will be the responsibility of the Contractor.
4. The use of helicopters to lift, place, or otherwise maneuver equipment is expressly prohibited.

1.09 CONSERVATION AND SALVAGE

A. General:

Contractor shall refer to the Owner's Sustainability Master Plan for Owner's conservation and salvage policies prior to the start of construction.

1. It is a requirement for supervision and administration of the Work that construction operations be carried out with the maximum possible consideration given to conservation of energy, water and materials. In addition, maximum consideration will be given to salvaging materials and equipment involved in performance of the Work but not incorporated therein.
2. Refer to other sections for required disposition of salvage materials which are the Owner's property.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01150 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 MEASUREMENT AND PAYMENT

- A. Measurement of Quantities: The following requirements, in general, apply to those items listed by unit prices in the Contract Documents:
1. All "Unit Price" Work completed under the Contract will be measured by the Owner or Design Professional in conjunction with the Contractor, using United States Customary Units of Measurement. Any measurements made by the Contractor without the Owner or Design Professional present shall not be the basis for, or otherwise used for, payment.
 2. The method of measurement and computations to be used in determination of quantities of material furnished and of Work performed under the Contract will be those methods generally recognized as conforming to good engineering practice.
 3. Unless otherwise specified, longitudinal measurements for area computations will be made horizontally and no deductions will be made for individual fixtures (or leave-outs) having an area of 9 square feet or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the Drawings or ordered in writing by the Design Professional.
 4. Structures will be measured according to neat lines shown on the Drawings or as altered to fit field conditions.
 5. Unless otherwise specified, all Contract Unit Price Items which are measured by the linear foot such as electrical ducts, conduits, pipe culverts, underdrains, and similar items will be measured parallel to the base or foundation upon which such items are placed.
 6. In computing volumes of excavation, the average end area method or other acceptable methods as approved by Owner will be used.
 7. The thickness of plates and galvanized sheets used in the manufacture of corrugated metal pipe, metal plate pipe culverts and arches, and metal cribbing will be specified and measured in decimal fraction of inches.
 8. The term "ton" will mean the short ton consisting of 2,000 pounds avoirdupois. All materials which are measured or proportioned by weights will be weighed on a certified, approved scale by competent, qualified personnel. If material is shipped by rail, the car weight may be accepted, provided that only the actual weight of material be paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight will be weighed empty daily at such times as the Owner or

Design Professional directs, and each truck will bear a plainly legible identification mark.

9. Materials to be measured by volume in the hauling vehicle will be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Owner or Design Professional, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles will be loaded to at least their water level capacity and all loads will be leveled when the vehicles arrive at the point of delivery.
10. When requested by the Contractor and approved by the Owner in writing, material specified to be measured by the cubic yard may be weighed and such weights will be converted to cubic yards for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Owner or Design Professional and will be agreed to by the Owner and Contractor before such method of measurement of pay quantities is used.
11. Bituminous materials will be measured by the gallon or ton. When measured by volume, such volumes will be measured at 60-degrees F or will be corrected to the volume at 60-degrees F using ASTM D 1250 for asphalts or ASTM D 633 for tars.
12. Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the Work.
13. When bituminous materials are shipped by rail or truck transport, net certified weights by volume, subject to correction for loss or foaming, may be used for computing quantities.
14. Concrete will be measured by the yard.
15. Timber will be measured by the thousand feet board measure (MFBM) actually incorporated in the structure. Measurement will be based on nominal widths and thickness and the extreme length of each piece.
16. The term "Lump Sum" when used as an Unit Price Item of payment will mean complete payment for the Work described in the Contract. However, payment of a lump sum item may be paid over several or all pay applications.
17. When a complete structure or structural unit (in effect, "Lump Sum" Work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.
18. When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc. and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be

nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

19. Scales for weighing materials which are required to be proportioned or measured and paid for by weight will be furnished, erected, and maintained by the Contractor, or by certified, permanently installed commercial scales.
20. Scales will be accurate within one-half percent of the correct weight throughout the range of use. The Contractor will have the scales checked under the observation of the Owner before beginning Work and at such other times as requested. The intervals will be uniform in spacing throughout the graduated or marked length of the beam or dial and will not exceed one-tenth of one percent of the nominal rated capacity of the scale, but not less than one pound. The use of spring balances will not be permitted.
21. Beams, dials, platforms, and other scale equipment will be so arranged that the operator and inspector can safely and conveniently view them.

Scale installations will have available ten standard 5.0-pound (2.3 kilogram) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.
22. Scales must be tested for accuracy and serviced before use at a new site. Platform scales will be installed and maintained with the platform level and rigid bulkheads at each end.
23. Scales "overweighing" (indicating more than correct weight) will not be permitted to operate and all materials received subsequent to the last previous correct weighing-accuracy test will be reduced by the percentage of error in excess of one-half of one percent.
24. In the event inspection reveals the scales have been "underweighing" (indicating less than correct weight) they will be adjusted and no additional payment to the Contractor will be allowed for materials previously weighed and recorded.
25. All costs in connection with furnishing, installing, certifying, testing and maintaining scales for furnishing check weights and scale house and for all other items specified in this section and for the weighing of materials for proportioning or payment will be included in the Unit Contract Prices for the various items of the Project.
26. When the estimated quantities for a specific portion of the Work are designated as the pay quantities in the Contract, they will be the final quantities for which payment for such specific portion of the Work will be made, unless the dimensions of said portion of the Work shown on the Drawings are revised by the Design Professional. If revised dimensions result in an increase or decrease in the quantities of such Work, the final quantities for payment will be revised in the amount represented by the authorized changes in the dimensions.

27. The Contractor and Owner will meet and conduct a quantity-in-place meeting (QIP meeting) on a monthly basis to review and agree to the quantities prior to pencil copy pay application submission.
28. The Contractor will establish a written process for managing and tracking all unit rate scopes of work identified within their subcontracts. This process will be reviewed with Owner and shall be accepted by Owner or modified as agreed upon. Contractor will meet with subcontractor(s) and Owner on a routine basis to confirm and document agreed upon quantities. Meeting shall occur at a minimum of once per month and prior to the pencil copy pay application submission. More frequent meetings shall occur at Owner's request.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01315 - SCHEDULES, PHASING

PART 1 - GENERAL

1.01 DESCRIPTION

Scope includes construction scheduling and phasing/sequencing required for proper execution of the Work as described herein. These requirements supplement the other requirements in the Contract Documents. In cases of conflict, the more stringent requirement shall govern as determined by the Owner.

1.02 SUMMARY

This Section is to provide for the comprehensive depiction, measurement, assessment and reporting of project progress and status pursuant to the sub-articles entitled "Contractor's Construction Schedules" of the Contract Provisions. The Contractor's responsibility shall include scheduling of all work within its contractual scope of work, creation of a Preliminary Schedule, a Baseline Schedule, production of reports, narratives, execution of the plan described by the current accepted schedule, participation in meetings with the Owner, and submission of Progress Schedules and revision data, as set forth herein and in the Contract Documents. Conventional Critical Path Method (CPM) techniques must be utilized to satisfy the requirements of this section.

1.03 Schedule Requirements:

- A. Scheduling System: The scheduling system shall utilize computerized CPM scheduling techniques and be capable of identifying the critical path for the entire project as well as the critical path to completion of Contract Milestone dates.
- B. Schedule Activities: In addition to construction activities, the Baseline Schedule shall include activities for submittals, shop drawings, testing, turnover and training, review and approval cycles, meetings and operations by other agencies and all other activities that will affect the Contractor's schedule. Material selections, procurement, delivery, receiving and issuing restrictions shall be accounted for by additional activities. Contractual milestones, such as "Notice of Award," "Notice to Proceed," "Substantial Completion" and "Final Completion," etc., shall be included along with other Contract Milestones and the Contractor's own milestones. The Owner may identify additional interfaces during the course of the Work and the Contractor will incorporate these in the Progress Schedule as required.
- C. Relationships: The relationships defined between activities shall be restricted to the following:
 - 1. FS - Predecessor must finish before successor starts.
 - 2. SS - Predecessor must start before successor starts.
 - 3. FF - Predecessor must finish before successor finishes.
 - 4. SF – Predecessor must start before successor finishes.

- D. Relationships shall also include, where necessary, definition of lag times between predecessors and successors. The use of lags is not encouraged; it is preferable to use an activity to represent the reason for the waiting period between activities.
- E. Calendars: Calendar information will include the number of working days per week and the Contractor's holiday schedule, including any other non-work periods. Each calendar must identify the planned working hours per workday. Multiple calendars may be used; in which case, documentation supporting each calendar shall be submitted.
- F. The schedule must correspond to the accepted Schedule of Values for the Contract, though a finer level of detail may be reflected in the schedule activities, these should roll up to a Schedule of Values cost item.
- G. Schedule Submission and Acceptance:
1. Preliminary Meeting: The Contractor shall participate in a preliminary meeting to discuss the proposed schedule and the Contract requirements prior to submission of the Baseline Schedule.
 2. Preliminary Schedule: A Preliminary Schedule shall be submitted to the Owner for review as required in the Contract Provisions within fourteen (14) days from "Notice of Intent to Award." Baseline Schedule: The Baseline Schedule showing all activities shall be submitted to the Owner as required in the Contract Provisions within thirty (30) days of the issuance of the Notice to Proceed.
 - a. Baseline Schedule Review and Evaluation: The Contractor shall participate in a review and evaluation of the proposed Baseline Schedule by the Owner in accordance with the schedule of events. Any revisions necessary as a result of this review shall be resubmitted for review within fourteen (14) days after the schedule review conference. This review cycle will continue until the Contractor submits a Baseline Schedule that is accepted by the Owner. The accepted Baseline Schedule shall be the schedule used by the Contractor for planning, organizing, directing the Work and reporting progress. Baseline Schedule submittals shall be in accordance with the "Schedule Submittal Format" as outlined in paragraph I.
 - b. Failure to establish an acceptable Baseline Schedule may result in the Owner withholding the payment for the Application for Payment.
 4. Progress Schedules: Progress Schedule reporting frequency shall be monthly as specified in the General Conditions. Progress Schedule submittals shall be in accordance with the "Schedule Submittal Format" as outlined in paragraph I.
 5. Job Coordination Meeting (JCM) Look-Ahead Schedule: This schedule shall be in the form of a time-scaled bar chart schedule including all Contractor activities in the window of time seven (7) days prior to the meeting and fourteen (14) days after the meeting. The Look-Ahead Schedule is to be accurately updated as of the day before the JCM. The Look-Ahead Schedule should be printed on letter

size (8.5"x11") paper for incorporation into the JCM minutes. The Contractor is to provide copies of the Look-Ahead Schedule to all JCM attendees.

6. As-Built Schedule: After all Contract work items are complete, and prior to final payment, the Contractor shall submit the final Progress Schedule that will be called the "As-Built" Schedule, showing actual start and actual finish dates for all schedule activities and milestones.
- H. Changes: The Contractor will incorporate Contract changes into the Progress Schedules for the period in which the change was issued. Contract changes that must be incorporated in Progress Schedules include Work Orders and Change Orders.
- I. Schedule Submittal Format:
 1. Time-scaled bar chart schedules shall be submitted on letter, legal or ledger size paper. Font size on the submitted schedules shall not be smaller than 8 point. Each schedule shall contain a title block with the following information:
 - a. Contractor's name.
 - b. Owner's Bid Package number and project name.
 - c. Plot date.
 - d. Data date.
 - e. Symbol definitions.
 2. All project schedule files shall be copied and submitted as 2 paper copies, 1 PDF version and 1 electronic version of Primavera P6 Version 6.0. The electronic versions may be transmitted to the Owner either on CD/DVD and an email with the appropriate transmittal.
- J. The schedule shall be cost-loaded with the total Contract value. The cost loading in the schedule must correspond to the accepted Schedule of Values for the Contract. Cost loading will be at the detailed activity level and accurately represent the value of the Work contained in each activity.
- K. Float: Float or slack is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any of the activities in the Schedule. Float or slack time is not for the exclusive use of or benefit of the Contractor. Extensions of time for performance required under the Contract Terms and Conditions will be granted only to the extent the time adjustment for the activity or activities affected exceeds the total float or slack along the channels involved at the time notice to proceed was issued for the change.

1.04 GENERAL

- A. The following phasing constraints will universally apply to all phases and elements of this Work.

1. Work shall be performed in a manner and during times so as to not impact Owner or Airport operations. Work times shall be submitted to the Owner for acceptance.
2. Work area access is not exclusive to the Contractor. Contractor shall coordinate its Work activities, times and schedules so as to not impact work by others having concurrent access to the work area.

1.05 PHASING/SEQUENCING

A. General:

1. The Work of this Contract will be performed in a phased construction schedule which will include all requirements for submittals, material and equipment procurement, material stockpiling, setting up Contractor's staging area, surveying of existing conditions and preparation of necessary schedules to meet the rigid requirements for Project completion according to the specific phases herein outlined and for the Project Substantial Completion, in accordance with Contract Documents. Where clock times are specified for specific work elements, these times will be local times.
2. THE CONTRACTOR WILL NOTIFY THE OWNER, IN WRITING, AT LEAST 72 HOURS PRIOR TO THE DATE OF COMMENCEMENT OF ANY ON-SITE WORK, INCLUDING TEMPORARY FACILITIES, MOBILIZATION AND MATERIAL AND EQUIPMENT DELIVERIES.
3. The Contractor will coordinate with Owner and adjust Project Schedule so as not to interfere with the on-going operations of the Airport, nor impact the previously accepted work schedules of others having concurrent access to the Work area.

B. Work Sequence of Construction:

The sequence of construction, if any, is provided solely for the purpose of indicating the general overview of the progressive steps to the Work so that existing Airport operations and functions and other contracts will be maintained in accordance with the requirements of the Owner. The descriptions of construction sequence will not be considered as definitive explanations of all the Work which may be required during each sequence.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01340 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Requirements of the Contract Documents, including Division 01. The Contractor will be required to follow the Submittal Management Process for the development of a Submittal Register Log and submission of Submittal Packet.

1.2 SUMMARY:

This Section specifies administrative and procedural requirements for submittal of Shop Drawings, Product Data and Samples to verify that products, materials and systems proposed for use comply with provisions of the Contract Documents.

- A. Shop Drawings include, but are not limited to, the following:

1. Fabrication Drawings.
2. Installation Drawings.
3. Setting diagrams.
4. Shop-work manufacturing instructions.
5. Templates and patterns.
6. Schedules.
7. Design mix formulas.
8. Coordination Drawings.

- B. Product Data include, but are not limited to, the following:

1. Manufacturer's product specifications.
2. Manufacturer's installation instructions.
3. Standard color charts.
4. Catalog cuts.
5. Roughing-in diagrams and templates.
6. Standard wiring diagrams.
7. Printed performance curves.
8. Operational range diagrams.
9. Mill reports.
10. Standard product operating and maintenance manuals.
11. Material Safety Data Sheets (MSDS).

- C. Samples include, but are not limited to, the following:

1. Partial Sections of manufactured or fabricated components.
2. Small cuts or containers of materials.
3. Complete units of repetitively-used materials.
4. Swatches showing color, texture and pattern.
5. Color range sets.

6. Components used for independent inspection and testing.
- D. Administrative Submittals: Refer to other Division 01 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
1. Schedule of Submittals.
 2. Permits.
 3. Applications for payment.
 4. Performance and payment bonds.
 5. Insurance certificates and endorsements.
 6. Listing of subcontractors, subcontracts and purchase orders.
 7. Design-Builder's construction schedule.
 8. Progress Schedules.
 9. Progress reports.

1.3 SUBMITTAL PROCEDURES:

- A. Coordination: Coordinate preparation and processing of submittals with performance of the Work.
1. At the beginning of the Work, the Contractor will prepare and submit a Submittal Register based on all of the submittal requirements in the specifications. Each item called out shall have an individual record (line) in the Submittal Register and this will be submitted for Owner approval and comment. The Owner will indicate on the Submittal Register those submittals that will be reviewed by the Owner.
 2. The Contractor shall review submittals before submitting to the Owner. Transmit each submittal to the Owner sufficiently in advance of scheduled performance of related construction activities to avoid delay. If any submittals will be delayed, inform the Owner in writing giving reasons for the delay and a revised submittal schedule. Delays will be subject to Owner's approval. No extension of time will be authorized because of a Contractor's failure to transmit submittals to the Owner sufficiently in advance of the Work to permit processing.
 3. The Owner will review submittals for general conformance with the Contract Documents. The review of the submittals by the Owner will not constitute any release or discharge of Contractor's sole liability and responsibility for all such submittals.
 4. Request for payment of stored materials will not be considered until submittals have been received and approved by the Owner.
 5. Transmit submittals to the Owner to prevent delays. The Contractor is responsible for delays accruing directly or indirectly from submission or resubmission of submittal date.
 6. The Contractor shall coordinate each submittal with other submittals and

related activities that require sequential activity including:

- a. Testing.
 - b. Purchasing.
 - c. Fabrication.
 - d. Delivery.
7. The Contractor shall coordinate transmittal of different types of submittals for the same element of the Work and different elements of related parts of the Work so that processing will not be delayed by the Owner's need to review submittals concurrently for coordination.
- a. The Owner reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are delivered to the Owner.
8. Processing: The Contractor shall allow sufficient review time so that Work will not be delayed as a result of the time required to process submittals, including time for re-submittals.
- a. The Contractor shall allow for time for the Owner's initial review of each submittal. The standard time for Owner review will be three weeks unless a different duration has been agreed to by Owner and Contractor. Where processing must be delayed to permit coordination with subsequent submittals, additional time is allowed. The Owner will advise the Contractor promptly when a submittal being processed must be delayed for coordination.
 - b. The Contractor shall where necessary to provide an intermediate submittal between the initial and final submittals, process the intermediate submittal in the same manner as the initial submittal.
 - c. The Contractor shall allow time for reprocessing of each submittal to meet the schedule.
 - d. No extension of time will be authorized because of a Contractor's failure to transmit submittals to the Owner sufficiently in advance of the Work to permit processing.
- B. All submittals shall be submitted electronically through the Owner's Management Software and use the Packages to pull register items in for review. Close-out submittals, including O&M Manuals shall be submitted through the Close-out Register for review and tracking purposes.
1. The Contractor shall place a permanent label or title block on each submittal for information.
 2. The Contractor shall indicate the name of the firm or entity that prepared each

submittal on the label or title block.

3. The Contractor shall provide a space approximately 4 inches by 5 inches on the label or adjacent to the title block to record the Contractor's review and approval markings and the action taken by the Owner.
4. The Contractor shall include the following information on the label for processing and recording action taken.
 - a. Project name.
 - b. Project Number.
 - c. Date.
 - d. Name and address of Owner.
 - e. Name and address of Contractor.
 - f. Name and address of subcontractor.
 - g. Name and address of supplier.
 - h. Name of manufacturer.
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Similar definitive information as necessary.

5. The Contractor shall include on each page (sheet) of the submittal with the Contractor's certification statement, or other approval statement, as follows:

"Contractor hereby certifies that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated in the work, is in compliance with the Contract Documents, can be installed in the allocated spaces, and is submitted for review by the Owner. Contractor acknowledges that Owner may rely on the information contained in this submittal.

Certified by Submittal Reviewer _____ . Date: _____ "

- C. Submittal Transmittal: The Contractor shall package each submittal appropriately for electronic transmittal and handling. The Contractor shall transmit each submittal from Contractor to Owner, as indicated, by use of a transmittal form. Submittals received from sources other than the Contractor will be returned to the sender without action. Submittal descriptions shall follow the Owner's naming conventions. Electronic transmittals must have descriptive subject lines for ease of retrieval. The transmittal form should be the first page in the attached PDF.
 1. The Contractor shall record relevant information and requests for data on the transmittal form. On the form, or an attached separate sheet, the Contractor shall call attention to deviations from requirements of the Contract Documents, including minor variations and limitations.
 2. The Contractor shall include the Contractor's signed certification stating that information submitted complies with requirements of the Contract Documents.

3. The Contractor shall prepare a draft of a transmittal form and submit it to the Owner's review and acceptance. The Contractor shall provide places on the form for the following information:
 - a. Project name.
 - b. Project Number.
 - c. Date.
 - d. Destination (To:).
 - e. Source (From:).
 - f. Names of subcontractor, manufacturer and supplier.
 - g. Category and type of submittal.
 - h. Submittal purpose and description.
 - i. Submittal and transmittal distribution record.
 - j. Remarks.
 - k. Signature of transmitter.

1.4 SPECIFIC SUBMITTAL REQUIREMENTS:

- A. Shop Drawings: The Contractor shall submit newly prepared information, drawn to accurate scale. THE CONTRACTOR SHALL NOT REPRODUCE CONTRACT DOCUMENTS OR COPY STANDARD PRINTED INFORMATION AS THE BASIS OF SHOP DRAWINGS.
 1. The Contractor shall include the following information on Shop Drawings:
 - a. Dimensions.
 - b. Identification of products and materials included.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 2. The Contractor shall submit Coordination Drawings where required for integration of different construction elements. The Contractor shall show construction sequences and relationships of separate components where necessary to avoid conflicts in utilization of the space available.
 3. The Contractor shall encircle, identify with arrow, or otherwise indicate deviations from the Contract Documents on the Shop Drawings.
 - a. THE CONTRACTOR SHALL NOT USE COLORED HIGHLIGHTERS TO INDICATE SELECTIONS.
 4. The Contractor shall not allow Shop Drawing copies which do not have an appropriate final stamp or other marking indicating action taken by the Owner to be used for construction.
- B. Product Data: The Contractor shall collect Product Data into a single submittal for each element of construction or system.

1. The Contractor shall encircle and identify with an arrow, each copy to show which choices and options are applicable to the Project.
 - a. The Contractor shall not use colored highlights to indicate selection.
 2. Where Product Data has included information on several similar products, some of which are not required for use on the Project, or are not included in this submittal, the Contractor shall mark copies to clearly indicate which information is applicable.
 3. Where Product Data must be specially prepared for required products, materials or systems, because standard printed data are not suitable for use, the Contractor shall submit as "Shop Drawings" not "Product Data."
 4. The Contractor shall include the following information in Product Data:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with recognized trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
 - f. Notation of coordination requirements.
 5. The Contractor shall not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
 6. The Contractor shall furnish copies of final Product Data submittal to manufacturers, subcontractors, suppliers, fabricators, installers, governing authorities and others as required for performance of the construction activities. The Contractor shall show distribution on transmittal forms.
 - a. The Contractor shall not proceed with installation of materials, products and systems until a copy of Product Data applicable to the installation is in the installer's possession.
 - b. The Contractor shall not permit use of unmarked copies of Product Data in connection with construction.
- C. Samples: The Contractor shall submit Samples physically identical with the material or product proposed for use; submit full-size, fully fabricated Samples, cured and finished in the manner specified.
1. The Contractor shall mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. The Contractor shall prepare Samples to match Designers' Sample where so indicated and include the following information:

- a. Generic description of the Sample.
 - b. Size limitations.
 - c. Sample source.
 - d. Product name or name of manufacturer.
 - e. Compliance with recognized standards.
 - f. Compliance with governing regulations.
 - g. Availability.
 - h. Delivery time.
2. The Contractor shall submit a Sample log at the beginning of the project to the Owner based on the required samples per the submittals.
 3. In-place samples are only allowed with written approval by Owner.
- D. Operating and Maintenance Manuals: Operating and Maintenance Manuals shall be initially submitted for review at the appropriate 30 percent completion stage of Work per requirements under these Sections. The Manuals will be reviewed and comments returned to the Contractor. Corrections shall be made before submittal of the Manuals at subsequent completion levels for Owner review and at Project Close-out.
- E. In order to facilitate review of product data and shop drawings, they shall be noted, indicating by cross reference the contract drawing sheet number, note, and specification paragraph numbers, where and what item(s) are used for and where item(s) occur in the contract documents.

1.5 OWNER ACTION:

- A. Except for submittals for the record, for information and similar purposes, where action and return on submittals is required or requested, the Owner will review each submittal, mark with appropriate "action," and where possible return within the time period allotted for Owner review. Where the submittal must be held for coordination, the Owner will so advise the Contractor without delay.
1. Compliance with specified characteristics is the Contractor's responsibility, and not considered part of the Owner's review and indication of action taken.
- B. The Owner will mark each submittal to be returned with a uniform, self-explanatory action stamp appropriately marked and executed to indicate whether the submittal returned is for unrestricted use (no exceptions taken), final-but-restricted use (as marked), must be revised and resubmitted (use not permitted), or without action (as explained on the transmittal form), or other similar type wording.
- C. The Owner's review of submittals is for design conformity and general conformance of the Contract Documents only and does not relieve the Contractor from responsibility for any deviations from the requirements of the Contract Documents. The Owner's review shall not be construed as a complete check nor shall it relieve the Contractor from responsibility for errors of any sort in shop drawings or schedules, or from the necessity of furnishing any work required by the Contract Documents which may have been omitted on the shop drawings. The Owner's review of a separate item shall not indicate

review of the complete assembly in which it functions.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.5 SCHEDULE OF SUBMITTALS DESCRIPTION AND SUBMITTAL REGISTER

- A. General: The following is a description of each submittal type, specified in other Sections, required for the Contract. Contractor shall include each submittal description in the Submittal Register included as part of this Section.
1. Product Data means submittals that provide calculations, descriptions or other documentation regarding the work.
 2. Manufacturer's Catalog Data (Product Data) means data composed of information sheets, brochures, circulars, specifications and product data, and printed information in sufficient detail and scope to verify compliance with requirements of the Contract Documents.
 3. Manufacturer's Standard Color Charts (Product Data) means preprinted illustrations displaying choices of color and finish for a material or product.
 4. Shop Drawings means graphic representations illustrating the relationship of various components of the work, schematic diagrams of systems, details of fabrications, layout of particular elements, connections, and other relational aspects of the work.
 5. Design Data (Shop Drawings) means design calculations, mix designs, analyses, or other data written and pertaining to a part of the work.
 6. Instructions (Product Data) means preprinted material describing installation of a product, system, or material, including special notices and Material Safety Data Sheets, if any, concerning impedance, hazards, and safety precautions.
 7. Schedules (Shop Drawings) means a tabular list of data or a tabular listing of locations, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work.
 8. Statements (Shop Drawings) means documents, required of the Contractor, or through the Contractor by way of a supplier, installer, manufacturer, or other lower tier contractor, the purpose of which is to further the quality or orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel, qualifications, or other verification of quality.
 9. Reports (Product Data) mean reports of inspection and laboratory tests,

including analysis, an interpretation of test results. Each report shall be properly identified. Test methods used and compliance with recognized test standards shall be described.

10. Test Reports (Product Data) mean reports signed by an authorized official of a testing laboratory that a material, product, or system identical to the material, product or system to be provided has been tested in accordance with requirements specified by naming the test method and material. The test report must state the test was performed in accordance with the test requirements; state the test results; and indicate whether the material, product, or system has passed or failed the test. Testing must have been within three years of the date of award of this Contract.
11. Factory Test Reports (Shop Drawings) mean written reports which include the findings of a test required to be performed by the Contractor or an actual portion of the work or prototype prepared for this project before it is shipped to the job site. The report must be signed by an authorized official of a testing laboratory and must state the test was performed in accordance with the test requirements; state the test results; and indicate whether the material, product, or system has passed or failed the test.
12. Field Test Reports (Shop Drawings) mean written reports which includes the findings of a test made at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation. The report must be signed by an authorized official of a testing laboratory or agency and must state the test was performed in accordance with the test requirements; state the test results; and indicate whether the material, product, or system has passed or failed the test.
13. Certificates (Shop Drawings) mean statements signed by responsible officials of a manufacturer of a product, system, or material attesting that the product, system, or material meet specified requirements. The statements must be dated after the award of this contract, name the project, and list the specific requirements which it is intended to address.
14. Warranties (Product Data) include but are not limited to statements signed by responsible officials of a manufacturer of a product, system, or material attesting that the product, system, or material will perform its specific function over a specified duration of time. The statement must be dated, and include the name of the project, the Owner's name, and other pertinent data relating to the warranty.
15. Samples (Samples) include both fabricated and non-fabricated physical examples of materials, products, and units of work as complete units or as portions of units of work.
16. Color Selection Samples (Samples) mean samples of the available choice of colors, textures, and finishes of a product or material, presented over substrates

identical in texture to that proposed for the work.

17. Sample Panels (Samples) mean assemblies constructed at the project site in a location acceptable to the Owner and using materials and methods to be employed in the work; completely finished; maintained during construction; and removed at the conclusion of the work or when authorized by the Owner.
18. Sample Installations (Samples) mean portions of an assembly or material constructed where directed and, if approved, retained as a part of the work.
19. Record means documentation to ensure compliance with an administrative requirement or to establish an administrative mechanism.
20. Operating and Maintenance Manuals (Records) mean data intended to be incorporated in an Operating and Maintenance Manual.
21. Test Reports of Existing Conditions mean documents describing existing conditions and operations of systems and components prior to the start of any work. Testing shall be held in the presence of the Owner. Provide copies of the test reports to the Owner.
22. Demonstration means physical operation of equipment and systems by factory authorized representatives to demonstrate to the Owner's facility personnel proper operation of systems. Provide all required documentation that certified completed demonstration.
23. As-Built Drawings means delineated documentation accurately depicting final installation location of components and systems of the building.
24. Shop Drawings in Electronic format mean that when drawings are required all materials shall be provided in AUTOCAD latest release and PDF and/or BIM on a CD/DVD.
25. Coordination Drawings mean the special type of Shop Drawings that show the relationship and integration of different construction elements that require close and careful coordination during fabrication or during installation to fit in the restricted space provided or to function as intended.
26. Certification of Approved Disposal of Hazardous Materials means the certification signed by the Contractor indicating legal disposal of hazardous materials.
27. CD/DVD Training Video means the recorded training instructions to be used by the Owner's personnel.
28. Spare Parts Memo means the listing of spare parts required; refer to Section 01700.

29. UL Letter of Finding means a document from Underwriters Laboratories Inc., attesting compliance with UL's standard for connection to an existing lightning protection system; a document from Underwriters Laboratories Inc., attesting compliance with UL's standard for UL Master Label.
 30. Equipment Check-Out Memos mean documents signed by the manufacturer's authorized representative stating that equipment has been installed and is operating in accordance with the manufacturer's specifications; refer to Section 01700 B.
- B. Submittal Register: The Contractor is to maintain an accurate updated Submittal Register and will bring this register to each scheduled OAC meeting with the Owner. The Submittal Register should include the following items:
1. Submittal-Description and Number assigned.
 2. Date to Owner.
 3. Date to Designer as appropriate.
 4. Date returned to Owner.
 5. Date returned to Contractor from Owner.
 6. Submittal Status.
 7. Date of Re-submittal and Return (as applicable).
 8. Date material released (for fabrication).
 9. Projected date of fabrication.
 10. Projected date of delivery to site.
 11. Status of submittal.
 12. Specification Section Number.
 13. Specification Paragraph Number.
 14. Owner Reviewer.
 15. Designer Reviewer.
 16. Transmittal Control Number.
 17. Planned Submittal Date.
 18. Action Code.
 19. Date of Action.
 20. Remarks.

END OF SECTION

SECTION 01370 - SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section includes requirements for preparation and submission of "Schedule of Values."
- B. Related work specified elsewhere:
 - 1. SCHEDULES, PHASING: Section 01315.
 - 2. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES: Section 01340.
 - 3. PRODUCTS AND SUBSTITUTIONS: Section 01605.
- C. Time Coordination: In coordination of initial submittals and other administrative start-up activities, the Contractor shall submit Schedule of Values to the Owner at earliest feasible date, but in no case later than 14 days before initial payment request is to be submitted.
- D. Upon request by the Owner, the Contractor shall support values given with data that will substantiate their correctness.
- E. The Contractor shall use Schedule of Values only as a basis for the Contractor's Applications for Payment.

1.02 FORM OF SUBMITTAL

- A. The Contractor shall submit the Schedule of Values using a modified AIA Document G-703 "Continuation Sheet". Modifications to the Template Microsoft Excel Schedule of Values will be required per Owner's direction. The basic format structure for the Schedule of Values will be governed by the following elements. Changes or clarification to the format will be at the sole approval of the Owner.
 - 1. No negative line items without Owner approval.
 - 2. Should a negative line item be allowed, it shall be billed out 100% during the first month that the negative line item appears.
 - 3. Any approved negative line items shall have all retainage dropped to 0% by the second pay application following the initial item appearing on the Schedule of Values.
 - 4. Schedule of Values shall be crafted using Excel. Monthly adjustments shall be made using a tracking mechanism. This tracking mechanism will be dictated by the Owner.
 - 5. Each Schedule of Values line item must be specific to one subcontractor once bought out.
 - 6. Once the SOV has been established, the Contractor may not add additional line items to the Schedule of Values without Owner approval unless new work is add by Owner Change Order or by Work Order.
 - 7. Changes to existing work shall not have a new line added to the Schedule of

- Values but shall be adjusted using a tracking method approved by the owner.
8. A column will be added to track funding source if required by Owner.
 9. Columns will be included to track status of retainage and release of retainage.

1.03 PREPARING SCHEDULE OF VALUES

- A. The Contractor shall prepare Schedule of Values in coordination with preparation of Progress Schedule.
- B. The Contractor shall provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of payment requests and progress reports. The Contractor shall breakdown principal separate Contract amounts based on the Work Break Down Structure approved through the Baseline schedule review process.
- C. The Contractor shall submit copies of Schedule of Values to the Owner through the Owner's management software.
- D. Listing: The Contractor shall arrange Schedule with columns to indicate generic name of item; related Specifications Sections; subcontractor, supplier, manufacturer, or fabricator; change orders which have affected value; dollar value of item; and percentage of Contract Sum to nearest 1/100% and adjusted to total 100%.
- E. Margins of Cost:
 1. Major cost items which are not directly cost of actual work-in-place, such as distinct temporary facilities, shall be either shown as line items in Schedule of Values as General Conditions or General Requirements.
- F. The Contractor shall itemize separate line item cost for Work required by each Section of this Specification including conditions of the Contract.
- G. For each line item, the installed value should not exceed more than \$20,000.00, this value can be raised as needed with Owner approval.
- H. The Contractor shall make sum of total costs of all items listed in schedule equal to total Contract Sum.

1.04 REVIEW AND RESUBMITTAL

- A. After review by the Owner and Design Professional, revise and re-submit Schedule (and Schedule of Material Value) as required.
- B. The Contractor shall re-submit revised schedule in same manner.
- C. Schedule Updating: The Contractor shall update and resubmit the Schedule of Values when Change Orders affect the listing and when actual performance of Work involves necessary changes of substance to values previously listed.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01390 - CONTROL OF WORK

PART 1 - GENERAL

1.01 AUTHORITY OF THE OWNER

The Owner will decide any and all questions which may arise as to the quality and acceptability of materials furnished, work performed, and/or the manner of performance and rate of progress of the Work. The Owner will decide all questions which may arise as to the interpretation of the Contract Documents relating to the Work, the fulfillment of the Contract on the part of the Contractor, and the rights of different Contractors on the Project. The Owner will determine the amount and quality of the several kinds of work performed and materials furnished which are to be paid for the under the Contract.

1.02 CONFORMITY WITH DRAWINGS AND SPECIFICATIONS

- A. All Work and all materials furnished will be in reasonably close conformity with the lines, grades, grading sections, cross sections, dimensions, material requirements, and testing requirements that are specified, including specified tolerances, in the Contract Documents.
- B. If the Owner finds the materials furnished, Work performed, or the finished product not within reasonably close conformity with the Contract Documents but that the portion of the Work affected will, in Owner's opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable to the Owner, the affected Work may be accepted and remain in place at the Owner's sole discretion. In this event, the Owner will document its determination and provide for an adjustment in the Contract Sum for the affected portion of the Work. The Owner's determination and Contract Sum adjustments will be based on good engineering judgment and such tests or retests of the affected Work as are, in Owner's opinion, needed. Changes in the Contract Sum will be covered by Contract modifications as applicable.
- C. If the Owner finds the materials furnished, Work performed, or the finished product are not in reasonably close conformity with the Contract Documents and have resulted in an unacceptable finished product, the affected Work or materials will be removed and replaced or otherwise corrected by, and at the expense of, the Contractor in accordance with the Owner's written orders.
- D. For the purpose of this section, the term "reasonably close conformity" will not be construed as waiving the Contractor's responsibility to complete the Work in accordance with the Contract Documents. The term will not be construed as waiving the Owner's right to insist on strict compliance with the Contract Documents during the Contractor's prosecution of the Work, when, in the Owner's opinion, such compliance is essential to provide an acceptable finished portion of the Work.
- E. For the purpose of this section, the term "reasonably close conformity" is also intended to provide the Owner with the authority to use good architectural and engineering judgment in his/her determinations as to acceptance of Work that is not in strict conformity but will provide a finished product equal to or better than that intended by

the requirements of the Contract Documents.

1.03 COORDINATION OF CONTRACT DOCUMENTS

- A. The Contract Documents and all referenced standards cited are essential parts of the Contract requirements. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide the complete Work. In case of discrepancy, figured dimensions, unless obviously incorrect, will govern over scaled dimensions. Cited standards for materials or testing and cited FAA advisory circulars will be considered as Standard Specifications.
- B. Any table, gradation, size, dimension, rate, mix, method, nomenclature, pay item number, basis of payment or method of measurement shown on the Drawings, which is in variance with the Standard Specifications, will be considered an amendment or supplement to the applicable Specification.
- C. The Contractor shall not take advantage of any apparent error or omission on the various Contract Documents. In the event the Contractor discovers any apparent conflict, error or discrepancy, Contractor shall immediately call upon the Owner for the Owner's interpretation and decision, and such decision shall be final.
- D. From time to time, discrepancies within cited standards for testing occur due to the timing of changing, editing, and replacing of standards. In the event the Contractor discovers any apparent discrepancy within standard test methods, the Contractor shall immediately call upon the Owner for interpretation and decision, and such decision shall be final.

1.04 DESIGN PROFESSIONAL'S DRAWINGS

- A. The Drawings furnished by the Design Professional consist of general drawings showing such details as are necessary to give a comprehensive idea of the Work. Roadway Drawings will show, in general, alignment, profile grades, typical cross sections and general cross sections. Structure Drawings, in general, will show in detail all dimensions of the Work contemplated.
- B. When the Structure Drawings do not show dimensions in detail, they will show general features and such details as necessary to give a comprehensive idea of the structure.
- C. Not all conflicts are known within the Project area. Not all conflicts are shown on the Drawings. The Contractor is solely responsible for the location and protection of all equipment and facilities which are to remain in service and in place during and after all Project Work.
- D. No changes (additions, deletions, or substitutions) to the drawings or specifications shall occur without the express written approval of the Owner.

1.05 FIELD NOTES

Adequate field notes and records will be kept as layout work is accomplished. These field notes and records will be available for review by the Owner and Design Professional as the Work

progresses and copies will be furnished to the Owner and Design Professional at the time of completion of the Project. An inspection or checking of the Contractor's field notes or layout work by the Owner or Design Professional, and the acceptance of all or any part thereof will not relieve the Contractor of its responsibility to achieve the lines, grades, and dimensions shown in the Drawings and Specifications.

1.06 AUTHORITY AND DUTIES OF INSPECTORS

- A. Inspectors employed by the Owner will be authorized to inspect all Work done and all materials furnished. Such inspection may extend to all or any part of the Work and to the preparation, fabrication, or manufacture of the materials to be used. Inspectors are not authorized to revoke, alter, or waive any provision of the Contract. Inspectors are not authorized to issue instructions contrary to the Drawings and Specifications or to act as foreman for the Contractor.
- B. Inspectors employed by the Owner are authorized to notify the Contractor or their representatives of any failure of the Work or materials to conform to the requirements of the Contract, Drawings, or Specifications and to reject such nonconforming materials until such issues can be referred to the Design Professional for recommendation and Owner's approval.
- C. Inspectors have the authority to immediately suspend the Work upon observation of any condition that could adversely impact or interfere with the safety or protection of persons or property.

1.07 INSPECTION OF THE WORK

- A. All materials and each part or detail of the Work will be subject to inspection by the Owner or Design Professional. The Owner or Design Professional will be allowed access to all parts of the Work and will be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection. Required assistance from the Contractor might include use of qualified personnel and equipment to gain access to the area, safety or personal protection equipment, and other resources to provide safe egress to and from the area to be inspected.
- B. If the Owner or Design Professional requests it, the Contractor, at any time before acceptance of the Work, will remove or uncover such portions of the finished Work as may be directed. After examination, the Contractor will restore said portions of the Work to the standard required by the Specifications. Should the Work thus exposed or examined prove acceptable, the uncovering or removing and the replacing of the covering or making good of the parts removed will be paid for as extra work. Should the Work so exposed or examined prove unacceptable, the uncovering or removing and the replacing of the covering or making good of the parts removed will be at the Contractor's expense.
- C. Any Work done or materials used without supervision or inspection by the Owner or Design Professional may be ordered removed and replaced at the Contractor's expense unless the Owner or Design Professional failed to inspect after having been given reasonable notice in writing that the Work was to be performed.
- D. Should the Contract Work include relocation, adjustment, or any other modification to

existing facilities not the property of the Owner, authorized representatives of the owners of such facilities will have the right to inspect such Work. Such inspection will in no way make any facility owner a party to the Contract, and will in no way interfere with the rights of the parties to this Contract. Inspection and/or approval of the Work or any portion thereof will not relieve the Contractor of responsibility for faulty materials or workmanship.

1.08 REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK

- A. All Work which does not conform to the requirements of the Contract Documents will be considered unacceptable, unless otherwise determined acceptable by the Owner as provided in Item 1.02 CONFORMITY WITH DRAWINGS AND SPECIFICATIONS of this Section.
- B. Unacceptable Work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the Final Completion of the Work, will be removed immediately and replaced in an acceptable manner in accordance with the provisions of Section 00700, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, PART 11, UNCOVERING AND CORRECTION OF WORK, as modified.
- C. Work done contrary to the instructions of the Owner, work done beyond the lines shown on the Drawings or as given, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the Contract. Work so done may be ordered removed or replaced at the Contractor's expense.
- D. Upon failure on the part of the Contractor to comply with any order of the Owner made under the provisions of this Section, the Owner will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to deduct the costs (incurred by the Owner) from any monies due or to become due the Contractor.

1.09 MAINTENANCE DURING CONSTRUCTION

The Contractor will maintain the Work during construction and until the Work is accepted. This maintenance will constitute continuous and effective work prosecuted day by day, with adequate equipment and forces so that the Work is maintained in satisfactory condition at all times. All Work will be protected during any delay between phases or sub-phases of construction required to complete the Work.

1.10 FAILURE TO MAINTAIN THE WORK

- A. Should the Contractor at any time fail to maintain the Work as provided in Item 1.09 MAINTENANCE DURING CONSTRUCTION of this Section, the Owner or Design Professional will immediately notify the Contractor of such noncompliance. Such notification will specify a reasonable time within which the Contractor will be required to remedy such unsatisfactory maintenance condition. The time specified will give due consideration to the urgency that exists.
- B. Should the Contractor fail to respond to the Owner's or Design Professional's notification,

the Owner may suspend any work necessary for the Owner to correct such unsatisfactory maintenance condition, depending on the urgency that exists. Any maintenance cost incurred by the Owner will be deducted from monies due or to become due the Contractor.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01400 - QUALITY CONTROL SERVICES

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Contract Documents: drawings, contract articles, special provisions, supplementary conditions, and all Division 01 specification sections attached to the project contract.
- B. Contractor issued specifications: Division 02 through 34 as they pertain to the tasks and requirements of carrying out the quality control program including commissioning.

2.01 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced within the contract documents. The publications are referred to in the text by the basic designation only.
 - 1. HILLSBOROUGH COUNTY AVIATION AUTHORITY (Owner).
 - a. Owner Construction Safety and Health Guidelines Manual.
 - b. Owner Design Criteria Manual.
 - c. Tampa International Airport Sustainable Management Plan.

3.01 DEFINITIONS

- A. Control – to guide and have influence over.
- B. Definable Feature of Work (DFOW) - a task that is separate and distinct from other tasks and has control requirements and work crews unique to that task. A DFOW is identified by different trades or disciplines and is an item or activity on the construction schedule. For example, excavation, electrical, concrete, roofing, mechanical, HVAC, etc. are all definable features of work.
- C. Experienced – a minimum of five (5) years' experience.
- D. Hillsborough County Aviation Authority (Owner) – An agent or approved representative having authority to act on behalf of the airport.
- E. Project Management Software (PMS) – software utilized for the purpose of submitting required information, correspondence, etc.; organizing and archiving project information; and managing and recalling project information.
- F. Quality – conformance to the requirements established by the contract documents, specification, and drawings.

4.01 SUBMITTALS

- A. The following submittals shall be submitted for Owner review and acceptance prior to start of construction:
1. Construction Quality Control (QC) Plan.
- B. Submit the following to Owner during construction by entering each of the items below into the approved project management software (PMS) database within the various timeframes indicated:
1. QC Report: Submit the report electronically by 10:00 AM the next working day after each day that work is performed and for every seven consecutive calendar days of no-work.
 2. Contractor Production Report: Submit the report electronically by 10:00 AM the next working day after each day that work is performed and for every three consecutive calendar days of no-work.
 3. Preparatory Phase Meeting Minutes: Submit meeting minutes for each Preparatory Phase Meeting held by the end of the next working day following the meeting date.
 4. Initial Phase Inspection Meeting Minutes and Checklist(s): Submit meeting minutes and all checklists for each Initial Phase Inspection Meeting held by the end of the next working day following the meeting date.
 5. QC Specialist Reports: Submit the report electronically by 10:00 AM the next working day after each day that work is performed.
 6. Field Test Reports: Field test reports that do not require an engineer's or other third-party review, stamp, and certification, shall be submitted within two working days after the test is performed. Test reports requiring an engineer's or other third-party review, stamp, and certification, shall be submitted within five working days after the test is performed.
 7. Monthly Status Report of Tests: Submit the updated test register at the end of each month. The test register shall clearly indicate which tests have been completed and which tests have not been completed for the various systems requiring testing.
 8. Testing Plan and Test Register: Provide a copy of the final Testing Plan and Test Register to the Commissioning Authority for inclusion into the final commissioning documentation.
 9. Rework Items List: As follow-up inspections, third-party inspections, AHJ inspections, engineer and architect field inspections, etc. occur, submit lists

containing new rework items daily.

10. QC Meeting Minutes: Submit QC meeting minutes within two working days after the meeting is held.
11. QC Certifications: Submit QC Certifications as required by the paragraph entitled "QC Certifications."
12. Special Inspection Reports: Submit Special Inspection reports within five working days of the inspection date.

5.01 QC PROGRAM REQUIREMENTS

- A. Establish and maintain a QC program as described in this specification section.
- B. Establish and maintain an effective QC program which produces a product that complies with the Contract Documents. A QC program comprises plans, procedures, and an organization that supports project design, construction, and commissioning. The QC program must cover all design, construction, and commissioning operations, both onsite and offsite, and be keyed to the contract design and construction sequence schedule.
- C. The QC program consists of a QC Organization, QC Plan, QC Plan Meeting(s), a Coordination and Mutual Understanding Meeting, submittal review and approval, periodic QC meetings, three phases of control, material receipt and storage inspections, testing, inspections, QC certifications, independent Special Inspections, and documentation necessary to provide materials, equipment, workmanship, fabrication, construction, and operations which comply with the requirements of this Contract. The QC program must cover on-site and off-site work and be keyed to the project schedule. No construction work or testing may be performed unless the QC Manager, QC Assistant, or the QC Alternate Manager is on the work site. The QC Manager must report to an officer of the firm and not be subordinate to the Project Superintendent or the Project Manager. The QC Manager, Project Superintendent, and Project Manager must interact and work together efficiently and effectively. Although the QC Manager is the primary individual responsible for the coordination of QC efforts and tasks, all individuals will be held responsible for the quality of work on the job.

6.01 QC ORGANIZATION

- A. Project Manager:
 1. The project manager shall be intimately involved in the management and enforcement of the QC program. The project manager shall be familiar with the project QC requirements and take an active role in developing the QC plan, resolving QC issues, ensuring documentation of QC efforts and tasks, and other oversight of the QC program necessary to deliver the project per the contract documents.

B. Project Superintendent:

1. The project superintendent is the highest-level manager responsible for the overall construction activities at the site, including quality and production. The project superintendent will be held responsible for the quality of work and is subject to removal by Owner for non-compliance with the quality requirements specified in the contract. The project superintendent must maintain a physical presence at the site at all times and is responsible for all construction and related activities at the site, except as otherwise acceptable to Owner.

C. QC Manager:

1. Duties:

- a. Provide a QC Manager at the work site to implement and manage the QC program. The QC Manager is required to attend the QC Plan Meetings, Coordination and Mutual Understanding Meeting, conduct periodic QC meetings, perform the three phases of control except for those phases of control designated to be performed by QC Specialists or other Special Inspectors as outlined in the QC Plan, perform submittal reviews, ensure testing is performed and provide QC certifications and documentation required in the Contract Documents. The QC Manager is responsible for managing and coordinating the three phases of control and documentation performed by the QC Specialists, testing laboratory personnel, and any other inspection and testing personnel required by the Contract Documents. The QC Manager is the manager of all QC activities. The QC manager is responsible for notifying the Special Inspector or Special Inspector of Record of activities which require their review. The QC manager is responsible for coordinating Special Inspection activities.

2. Qualifications:

- a. An individual with a minimum of 5 years combined experience in the following positions: QC Manager, Project Manager, Project Superintendent, Project Engineer, or Construction Manager on similar size and type construction contracts which included the major trades that are part of this Contract. The individual must have at least two years of experience as a QC Manager. The individual must be familiar with the safety requirements of this Contract, and have experience in the areas of hazard identification, safety compliance, and sustainability.

D. Alternate QC Manager Duties and Qualifications:

1. Designate an alternate for the QC Manager at the work site to serve in the event of the designated QC Manager's absence. The period of absence may not exceed two weeks at one time, and not more than 30 workdays during a calendar year. The qualification requirements for the Alternate QC Manager must be the same as for

the QC Manager.

E. QC Specialists Duties and Qualifications

1. Provide a separate QC Specialist at the work site for each of the areas of responsibilities as specified within the QC Plan who must assist and report to the QC Manager. The QC Specialist must have no duties other than their assigned QC duties. QC Specialists are required to attend the Coordination and Mutual Understanding Meeting, QC meetings, and be physically present at the construction site to perform the three phases of control and prepare documentation for each definable feature of work in their area of responsibility.
2. The QC Specialist shall be competent and have acceptable education, experience, training, certification, and/or licensing in their designated discipline.

F. Special Inspectors or Special Inspectors of Record:

1. The Special Inspector (SI) or Special Inspector of Record (SIOR) must be an independent third party hired directly by the Prime Contractor. The SI or SIOR must not be a company employee of the Contractor or any Sub-Contractor performing the work to be inspected. The SI or SIOR shall be qualified, certified, and/or licensed as required per their specialty.

G. Submittal Reviewer(s) Duties and Qualifications:

1. Provide a Submittal Reviewer(s), other than the QC Manager or CA, qualified in the discipline(s) being reviewed, to review and certify that the submittals meet the requirements of this Contract prior to certification or approval by the QC Manager.
2. Each submittal must be reviewed by a registered architect or professional engineer prior to review by the Submittal Reviewer(s).

H. QC Administrative Assistant:

1. Provide an Administrative Assistant at the work site until the work has been accepted. The primary duty is to assist the QC Manager in processing and maintaining files for submittals, preparing and publishing reports and meeting minutes. After primary duties are accomplished, other duties may be assigned provided the duties do not interfere with primary duties.

I. Acceptance of QC Personnel:

1. Owner reserves the right to interview any member of the QC organization at any time in order to verify the submitted qualifications. Owner may require the removal of any individual for non-compliance with quality requirements specified in the Contract Documents.

7.01 QUALITY CONTROL (QC) PLAN

A. Acceptance of the Construction QC Plan:

1. Acceptance of the QC Plan is required prior to the start of construction. Once construction begins, Owner reserves the right to require changes in the QC Plan as necessary to conform to changes and developments in the project.
2. The only construction work that is authorized to proceed prior to the acceptance of the QC Plan is mobilization of storage and office trailers, temporary utilities, and surveying.

B. Requirements of the QC Plan:

1. Provide, for acceptance by Owner, a Construction QC Plan submitted electronically that includes a table of contents, with major sections identified and bookmarked, with pages numbered sequentially, and that documents the proposed methods and responsibilities for accomplishing QC and commissioning activities during the construction of the project. At a minimum, the plan shall contain the following:
 - a. QC ORGANIZATION:
 - 1) A chart showing the QC organizational structure.
 - b. NAMES AND QUALIFICATIONS:
 - 1) Provide the names and qualifications, in resume format, for each person in the QC organization. Include the CQM for Contractors course certifications for the QC Manager and Alternate QC Manager as required by the paragraphs entitled "Construction Quality Management Training" and "Alternate QC Manager Duties and Qualifications."
 - c. DUTIES, RESPONSIBILITY AND AUTHORITY OF QC PERSONNEL:
 - 1) Identify the project specific duties, responsibilities, deliverables, and authorities of each person in the QC organization.
 - d. OUTSIDE ORGANIZATIONS:
 - 1) Provide a listing of outside organizations, such as architectural, consulting engineering firms, and subcontractors that will be employed by the Contractor and a description of the services these firms will provide. All major definable features of work shall be covered by this listing of organizations. Identify company names, addresses, points of contact, contact information, etc.

e. APPOINTMENT LETTERS:

- 1) Letters signed by an officer of the firm appointing the QC Manager and Alternate QC Manager and stating that they are responsible for implementing and managing the QC program as described in this Contract. Include in this letter the responsibility of the QC Manager and Alternate QC Manager to implement and manage the three phases of control, and their authority to stop work which is not in compliance with the Contract. Letters of direction are to be issued by the QC Manager to the Assistant QC Manager and all other QC Specialists outlining their duties, authorities, and responsibilities. Include copies of the letters in the QC Plan.

f. SUBMITTAL PROCEDURES AND SUBMITTAL REGISTER:

- 1) Provide a description of the procedures and processes for reviewing, approving, and managing submittals. Provide the name(s) of the person(s) in the QC organization authorized to review and certify submittals prior to overall approval by the Contractor. Provide the initial Submittal Register. This register shall list all required submittals per the contract documents. The register shall be maintained as required submittals are submitted, added, or not required due to changes or modifications in the project. The submittal register shall be kept up-to-date and readily accessible for review by the project team.

g. TESTING LABORATORY INFORMATION:

- 1) Provide testing laboratory information as required by the Contract Documents. Identify testing laboratory company names, addresses, points of contact, contact information, and the definable features of work they are responsible for on this project. Include company and/or personnel licenses, certifications, qualifications, affiliations, etc. as required by the various specifications.

h. TESTING PLAN AND TESTING REGISTER:

- 1) Provide a Testing Plan and Test Register that identify the various tests required by the Contract Documents. The Test Plan shall reference the specification paragraph number requiring the test, the frequency, and the entity and/or person responsible for each test. The Test Register shall break down each definable feature of work (by area, floor, system, etc.) and be able to track which tests have been completed as well as which tests have not been completed. The Test Register shall be used to provide an overall status on the progress of testing.

i. INSPECTION PLAN AND INSPECTION REGISTER:

- 1) Provide an Inspection Plan and Inspection Register that identify the various

inspections required by the Contract Documents. The Inspection Plan shall reference the specification paragraph number requiring the inspection, the frequency, and the entity and/or person responsible for each inspection. The Inspection Register shall break down each definable feature of work (by area, floor, system, etc.) and be able to track which inspections have been completed as well as which inspections have not been completed. The Inspection Register shall be used to provide an overall status on the progress of inspections.

j. PROCEDURES TO COMPLETE REWORK ITEMS:

- 1) Provide a description of the procedures that will be employed to identify, record, track, and complete rework items. These procedures shall cover rework items identified during various stages of the project including initial and follow-up phase inspections, close-in/concealment inspections, code and special inspector inspections, punchlist inspections, etc. The procedures shall include how rework items will be communicated to the respective responsible parties. The rework items list shall be readily available to all project team members.

k. DOCUMENTATION PROCEDURES:

- 1) Provide a description of how project QC documentation will be recorded, tracked, reported, and stored. If hardcopies are required, describe the procedures for receiving and filing hardcopies and provide the location of where hardcopy files are kept. If electronic copies are required, describe the procedures; format of various deliverables; software used to enter, track, status, and store deliverables; and the location of where the files are stored. All project QC documentation shall be readily available to all project team members.

l. LIST OF DEFINABLE FEATURES:

- 1) A Definable Feature of Work (DFOW) is a task that is separate and distinct from other tasks and has control requirements and work crews unique to that task. A DFOW is identified by different trades or disciplines and is an item or activity on the construction schedule. Include in the list of DFOWs, but not be limited to, all critical path activities. Include all activities for which this specification requires QC Specialists or specialty inspection and testing personnel.

m. PROCEDURES FOR PERFORMING THE THREE PHASES OF CONTROL:

- 1) State the procedures used to ensure the three phases of control to manage the project. Conduct the preparatory and initial phase meetings with the goal of obtaining quality construction by planning ahead and identifying potential problems for each DFOW. Perform follow-up inspections to assure that standards are continually met throughout the rest of

construction.

- 2) Special inspections shall be identified, scheduled, and tracked as part of the QC plan.

n. PERSONNEL MATRIX:

- 1) A personnel matrix showing for each section of the specification who will review and approve submittals, who will perform and document the three phases of control, and who will perform and document the testing.

o. PROCEDURES FOR COMPLETION INSPECTIONS:

- 1) Procedures for identifying and documenting the completion inspection process. Include in these procedures the responsible party for close-in/concealment inspections, punch out inspection, pre-final inspection, and final acceptance inspection.

p. TRAINING PROCEDURES AND TRAINING REGISTER:

- 1) Describe the procedures for coordinating and documenting the training of personnel required by the Contract Documents. The training procedures shall clearly identify the prerequisites prior to training, who will receive training, the duration of training, any deliverables required prior to, or at the time of, training. Provide a Training Register that lists all of the required training and update the register as training is completed. The training register shall be used to provide an update on which training has been complete and what training is still outstanding.

q. ORGANIZATION AND PERSONNEL CERTIFICATIONS LOG:

- 1) Procedures for coordinating, tracking and documenting all certifications on subcontractors, testing laboratories, suppliers, personnel, etc. QC Manager will ensure that certifications are current, appropriate for the work being performed, and will not lapse during any period of the contract that the work is being performed.

C. Notification of Changes:

1. Notify Owner, in writing, of any proposed changes in the QC Plan or changes to the QC organization personnel, a minimum of 10 work days prior to a proposed change. Proposed changes are subject to acceptance by Owner.

8.01 COORDINATION AND MUTUAL UNDERSTANDING MEETING

A. After submission of the QC Plan, and prior to Owner approval and the start of

construction, the QC Manager will meet with Owner to present the QC program required by this Contract. When a new QC Manager is appointed, the coordination and mutual understanding meeting must be repeated.

B. The purpose of this meeting is to develop a mutual understanding of the QC details, including documentation, administration for on-site and off-site work, design intent, commissioning, environmental requirements and procedures, coordination of activities to be performed, Special Inspections, and the coordination of the Contractor's management, production, and QC personnel. At the meeting, the Contractor will be required to explain in detail how the three phases of control will be implemented for each DFOW, as well as how each DFOW will be affected by each management plan or requirement as listed below:

1. Waste Management Plan.
2. Environmental Protection Plan.
3. Environmental regulatory requirements.
4. Special Inspections.
5. Coordination of Activities.
 - a. Coordinate activities included in various sections to assure efficient and orderly installation of each component. Coordinate operations included under different sections that are dependent on each other for proper installation and operation. Schedule construction operations with consideration for indoor air quality as specified in the IAQ Management Plan. Coordinate pre-functional tests and startup testing with the commissioning CA.
6. Describe how the QC team will involve, interact, and support the project superintendents and managers. This interaction is key so approved equipment and materials are installed correctly; rework items are identified, tracked, and corrected in a timely manner to minimize project disruption; and construction activities are properly sequenced to accommodate inspections and testing.

C. Attendees:

1. As a minimum, the Contractor's personnel required to attend include the Project Principal, the Project Manager, Project Superintendent, QC Manager, (and other QC Specialists as appropriate to the size and complexity of the Project), Special Inspector or Special Inspector of Record, Commissioning Authority, Environmental Manager, and, to the extent assigned QC responsibilities, subcontractor project manager, superintendent and QC representative(s). Minutes of the meeting will be prepared and signed by the Contractor.

9.01 QC MEETINGS

A. After the start of construction, conduct weekly QC meetings by the QC Manager at the work site with the Project Superintendent, the QC Specialists, the Special Inspector, the Special Inspector of Record, the CA, and the foremen who are performing the work of the DFOWs. Owner shall be invited to participate in these meetings, but is not required to be present to conduct the meeting. The QC Manager is to prepare the minutes of the meeting and enter them into the approved PMS database within two working days after the meeting. As applicable, accomplish the following at each meeting:

1. Review the minutes of the previous meeting.
2. Review the project schedule and the status of work and rework.
3. Review the work to be accomplished in the next two weeks and the documentation required to support the work.
4. Review the status of submittals.
5. Identify and schedule when equipment and materials will be delivered to the site for inspection, offloading, and storage.
6. Identify and schedule tests and inspections required to support construction.
7. Resolve or provide steps to resolve QC and production problems (RFI, schedule modifications, elevate issue to higher authorities, etc.).
8. Address items that may require revising the QC Plan.
9. Review Accident Prevention Plan (APP).
10. Review environmental requirements and procedures.
11. Review Waste Management Plan.
12. Review Environmental Management Plan.
13. Review the status of training completion.

10.01 THREE PHASES OF CONTROL

A. Adequately cover both on-site and off-site work with the Three Phases of Control and include the following for each DFOW.

B. Preparatory Phase Meetings

1. Notify Owner at least two work days in advance of each preparatory phase meeting. The meeting will be conducted by the QC Manager and attended by the QC Specialists, the Project Superintendent, the CA, the Special Inspector, the Special Inspector of Record, and the foreman responsible for the DFW. When the DFW will be accomplished by a subcontractor, that subcontractor's foreman must attend the preparatory phase meeting. Prepare minutes of the meeting and enter them into the Owner PMS database within two working days after the meeting.
2. As applicable, perform the following prior to beginning work on each DFW:
 - a. Review each paragraph of applicable specification sections.
 - b. Review the Contract drawings.
 - c. Verify that field measurements are as indicated on construction and/or shop drawings before confirming product orders.
 - d. Verify that appropriate shop drawings and submittals for materials and equipment have been submitted and approved. Verify receipt of approved factory test results, when required.
 - e. Review the testing plan and register to ensure that provisions have been made to provide the required testing.
 - f. Review the inspections register to identify all required inspections. Add inspection activities or inspection hold points to the project schedule as a precursor prior to concealment, approval, acceptance, or further construction.
 - g. Review special inspections required by Section 014535 SPECIAL INSPECTION, the statement of special inspections and the schedule of special inspections.
 - h. Discuss site investigations and examinations of the work area to ensure that the required preliminary work has been completed.
 - i. Coordinate and schedule equipment and product deliveries to designated offloading and storage areas for inspection.
 - j. Discuss specific controls used and construction methods, construction tolerances, workmanship standards, and the approach that will be used to provide quality construction by planning ahead and identifying potential problems for each DFW.

- k. Review the Job Hazard Analysis (JHA) to ensure that applicable safety requirements are met, and that required Safety Data Sheets (SDS) are submitted.
- l. Review the Cx Plan and ensure all preliminary work items have been completed and documented.

C. Initial Phase Inspections:

1. Notify Owner at least two work days in advance of each initial phase inspection. When construction crews are ready to start work on a DFWO, conduct the initial phase with the QC Specialists, the Project Superintendent, the Special Inspector, the Special Inspector of Record, and the foreman responsible for that DFWO. Observe the initial segment of the DFWO to ensure that the work complies with Contract requirements. Document the results of the initial phase inspection including any checklists or other field documentation and enter them into the Owner PMS database within two working days after the inspection. Repeat the initial phase for each new crew to work on-site, or when acceptable levels of specified quality are not being met.
2. As applicable, perform the following for each DFWO:
 - a. Establish level of workmanship and verify that it meets the minimum acceptable workmanship standards. Compare with samples and mock-ups as appropriate.
 - b. Verify field test equipment has been calibrated and is within the calibration date.
 - c. Resolve any workmanship issues.
 - d. Ensure that testing is performed by the approved laboratory.
 - e. Check work procedures for compliance with the appropriate SPA to ensure that applicable safety requirements are met.
 - f. Review project specific work plans (i.e. Cx, HAZMAT Abatement, Stormwater Management) to ensure all preparatory work items have been completed and documented.
 - g. Coordinate scheduled work with special inspections required by Section 014535 SPECIAL INSPECTIONS, the statement of special inspections and the schedule of special inspections.

D. Follow-Up Phase Inspections:

1. Perform the following for on-going work daily, or more frequently as necessary, until the completion of each DFOW and document in the daily QC Report:
 - a. Ensure the work is in compliance with Contract requirements.
 - b. Maintain the quality of workmanship required.
 - c. Ensure that testing is performed by the approved testing agency or laboratory.
 - d. Continue to verify that field test equipment has been calibrated and is within the calibration date.
 - e. Ensure that rework items are being corrected.
 - f. Conduct equipment and material receipt inspections.
 - g. Examine the required materials, equipment, and sample work to ensure that they are on hand and conform to the approved shop drawings and submitted data and are properly stored.
 - h. Assure manufacturers' representatives have performed necessary inspections if required and perform safety inspections.
 - i. Review the Cx Plan and ensure all work items, testing, and documentation has been completed.
 - j. Coordinate scheduled work with special inspections required by Section 014535 SPECIAL INSPECTIONS, the statement of special inspections and the schedule of special inspections.

E. Additional Preparatory and Initial Phases:

1. Conduct additional preparatory and initial phases on the same DFOW if the quality of on-going work is unacceptable, if there are changes in the applicable QC organization, if there are changes in the on-site production supervision or work crew, if work on a DFOW is resumed after substantial period of inactivity, or if other problems develop.

F. Notification of Three Phases of Control for Off-Site Work:

1. Notify Owner at least two weeks prior to the start of the preparatory and initial phases for off-site work.

11.01 SUBMITTAL REVIEW AND APPROVAL

A. Procedures for submission, review and approval of submittals are described in

Section 013300 SUBMITTAL PROCEDURES.

12.01 MATERIAL RECEIPT AND STORAGE INSPECTIONS

- A. All equipment and material delivered to the project site shall be inspected and verified to the approved project submittal. If material does not meet the requirements of the submittal, the material shall not be received or offloaded and shall be returned to the sender.
- B. Material shall be delivered in new condition. Packing shall not show signs of damage or mishandling.
- C. Equipment and material shall be delivered to designate receiving/storage areas for inspection, offloading, and storage.
- D. Handle and store equipment and materials in a manner as to prevent loss from theft, weather, and damage. Keep materials, products, and accessories covered and off the ground, and store in a dry, secure area. Prevent contact with other material or conditions that may cause corrosion, discoloration, or staining. Protect all material from damage by the activities of other trades.
- E. A material receipt inspection report shall be generated and submitted along with the daily QC report stating that material meets the requirements in this section. Attach any checklist used to inspect and receive the equipment and material.

13.01 TESTING

- A. Perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements.
- B. Upon request, furnish to Owner duplicate samples of test specimens for possible testing by Owner.
- C. Testing includes operation and/or acceptance tests when specified.
- D. Procure the services of an approved testing laboratory or establish an approved testing laboratory at the project site.
- E. Perform the following activities and record and provide the following data:
 - 1. Verify that testing procedures comply with contract requirements
 - 2. Verify that facilities and testing equipment are available and comply with testing standards
 - 3. Check test instrument calibration data against certified calibration standards

4. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared
5. Record results of all tests taken, both passing and failing on the QC report for the date taken. Identify the specification paragraph reference, location where tests were taken, and the sequential control number identifying the test. If approved by Owner, actual test reports may be submitted later with a reference to the test number and date taken. Provide an information copy of tests performed by an offsite or commercial test facility directly to Owner. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract

F. Accreditation Requirements:

1. Construction materials testing laboratories must be accredited by a laboratory accreditation authority and will be required to submit a copy of the Certificate of Accreditation and Scope of Accreditation. The laboratory's scope of accreditation must include the appropriate standards (e.g. ASTM E 329, C 1077, D 3666, D 3740, A 880, E 543) listed in the technical sections of the specifications. Laboratories engaged in Hazardous Materials Testing must meet the requirements of OSHA and EPA. The policy applies to the specific laboratory performing the actual testing, not just the Corporate Office.
2. Owner retains the right to check laboratory equipment in the proposed laboratory and the laboratory technician's testing procedures, techniques, and other items pertinent to testing, for compliance with the standards set forth in the Contract.

G. Test Results:

1. Cite applicable Contract requirements, tests or analytical procedures used. Provide actual results and include a statement that the item tested or analyzed conforms or fails to conform to specified requirements. If the item fails to conform, notify Owner immediately.
2. Conspicuously stamp the cover sheet or first page of each test report in large letters "CONFORMS" or "DOES NOT CONFORM" to the specification requirements, whichever is applicable. Test results must be signed by a testing laboratory representative authorized to sign certified test reports.

H. Test Reports and Monthly Summary Report of Tests:

1. Furnish the signed reports, certifications, and a summary report of field tests at the end of each month to Owner. Attach a copy of the summary report to the last daily Contractor QC Report of each month. Provide a copy of the signed test reports and certifications to the CA for inclusion into the final commissioning

documentation.

14.01 QC CERTIFICATIONS

A. QC Report Certifications:

1. Contain the following statement within the QC Reports: "On behalf of the Contractor, I certify that this report is complete, correct, and equipment and material used along with the work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge, except as noted in this report."

B. Invoice Certifications:

1. Furnish a certificate to Owner with each payment request, signed by the QC Manager, attesting that the work for which payment is requested, including stored material, is in compliance with Contract requirements and that redline and as-built drawings are current and coordinated.

C. Redline and As-built Drawings Certifications:

1. The QC Manager shall provide a certification along with the redline and as-built drawing submissions stating that the drawings have been reviewed and provide an accurate depiction of the actual field installed condition.

D. Completion Certifications:

1. Upon completion of work under this Contract, or a portion thereof in the case of phased completion, the QC Manager must furnish a certificate to Owner attesting that "the work has been completed, inspected, tested, and is in compliance with the Contract."

15.01 CONCEALMENT INSPECTIONS

A. Underground concealment inspections:

1. Prior to concealing underground work, the Contractor shall conduct concealment inspections to ensure that all construction below grade is complete and meets all contract document requirements.

B. Wall concealment inspections:

1. Prior to the completion of walls, the Contractor shall conduct concealment inspections to ensure that all construction within the wall is complete and meets all contract document requirements.

C. Ceiling concealment inspections:

1. Prior to the completion of ceilings, the Contractor shall conduct concealment inspections to ensure that all construction above the ceiling is complete and meets all contract document requirements.

D. Concealment inspection reports:

1. A report shall be generated by the contractor stating that the required inspections have been performed by all parties and that the space is approved for concealment. Attach any checklists used during the inspection.

16.01 COMPLETION INSPECTIONS

A. Punch-Out Inspection:

1. Near the completion of all work or any phased increment thereof, the QC Manager and the CA must conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings, specifications and Contract. Include in the punch list any remaining items on the "Rework Items List", which were not corrected prior to the Punch-Out Inspection. Include within the punch list the estimated date by which the deficiencies will be corrected. Provide a copy of the punch list to Owner per Article 6 and Division 1 specification section 01700 - PROJECT CLOSEOUT of the contract. The QC Manager must make follow-on inspections to ascertain that all deficiencies have been corrected. Once this is accomplished, notify Owner that the facility, or portion thereof, is ready for Owner's Pre-Final Inspection.

B. Pre-Final Inspection:

1. Owner and the QC Manager will perform this inspection to verify that the facility is complete and ready to be occupied. An Owner "Pre-Final Punch List" will be documented by the contractor's QC Manager as a result of this inspection. The QC Manager will ensure that all items on this list are corrected prior to notifying Owner that a "Final" inspection can be scheduled. Any items noted on the "Pre-Final" inspection must be corrected in a timely manner and be accomplished before the contract completion date for the work, or any particular increment thereof, if the project is divided into increments by separate completion dates.

C. Final Acceptance Inspection:

1. Notify Owner at least 14 calendar days prior to the date a final acceptance inspection can be held. State within the notice that all items previously identified on the pre-final punch list will be corrected and acceptable, along with any other unfinished Contract work, by the date of the final acceptance inspection. The Contractor must be represented by the QC Manager, the Project Superintendent, the CA, and others deemed necessary. Attendees for

Owner will include the Project Manager, other Owner personnel, and personnel representing clients or tenants. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for Owner to bill the Contractor for additional inspection costs in accordance with the Contract.

17.01 DOCUMENTATION

- A. Maintain current and complete records of on-site and off-site QC program operations and activities. Establish and maintain QC documentation in an electronic format within an approved PMS database, organized, bookmarked, searchable, and readily accessible to Owner 24-hours a day, 7-days a week.
- B. Construction Documentation:
 - 1. Reports are required for each day that work is performed and must be attached to the Contractor QC Report prepared for the same day. Maintain current and complete records of on-site and off-site QC program operations and activities. Account for each calendar day throughout the life of the Contract. The Project Superintendent and the QC Manager must prepare and sign the Contractor Production and QC Reports, respectively.
- C. Reports from the QC Specialist(s):
 - 1. Reports are required for each day that work is performed in their area of responsibility. QC Specialist reports must include the same documentation requirements as the QC Report for their area of responsibility. QC Specialist reports are to be prepared, signed, and dated by the QC Specialists and must be attached to the CQC Report prepared for the same day.
- D. Testing Plan and Registers:
 - 1. As tests are performed, the CA and the QC Manager will record on the "Testing Plan and Register" the date the test was performed and the date the test results were forwarded to Owner. Attach a copy of the updated "Testing Plan and Log" to the last daily QC Report of each month. Provide a copy of the final "Testing Plan and Register" to the CA for inclusion into the final commissioning documentation.
- E. Rework Items List:
 - 1. The QC Manager must maintain a list of work that does not comply with the Contract, identifying what items need to be reworked, the date the item was originally discovered, the date the item will be corrected by, and the date the item was corrected. There is no requirement to report a rework item that is corrected the same day it is discovered. Attach a copy of the "Rework Items List" to the last daily QC Report of each month. The Contractor is responsible for including those items identified by Owner.

F. Redline and As-Built Drawings:

1. The QC Manager is required to ensure the redline and as-built drawings, required by Section 01700 closeout submittals are kept current on a daily basis and marked to show deviations which have been made from the Contract drawings. Ensure each deviation has been identified with the appropriate modifying documentation (e.g. Change Order, Request for Information (RFI), etc.). The QC Manager or QC Specialist assigned to an area of responsibility must initial each revision. Upon completion of work, the QC Manager will furnish a certificate attesting to the accuracy of redline and as-built drawings prior to submission to Owner.

18.01 NOTIFICATION ON NON-COMPLIANCE

- A. Owner will notify the Contractor of any detected non-compliance with the Contract Documents. The Contractor shall take corrective action after receipt of such notice per the Contract requirements. Such notice, when delivered to the Contractor at the work site, is deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, Owner may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders will be made the subject of claim for extension of time for excess costs or damages by the Contractor.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

End of Section

SECTION 01410 - TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 PROCEDURE

A. Contractor's Testing Laboratory:

The Contractor will provide the services of an independent testing laboratory acceptable to the Owner to inspect and test the materials and methods of construction as hereinafter specified for compliance with the requirements of the Contract Documents and to perform such other specialized technical services as may be required by the Contractor or Owner to demonstrate compliance. Inspections or testing performed as part of the Contractor's operations will be included as part of the Work. Employment of a testing laboratory will in no way relieve the Contractor of its obligation to perform the Work in accordance with the Contract Documents.

B. Test Register:

The Contractor shall provide a Test Register identifying all required testing in accordance with the contract documents. Register shall be kept updated and used to track test information including, but not limited to, date, time and location of tests.

1.02 QUALIFICATIONS OF CONTRACTOR'S TESTING LABORATORY

A. The Testing Laboratory:

1. The Testing Laboratory selected will meet the basic requirements of ASTM E329 "Standard of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction." The Testing Laboratory will submit to the Owner a copy of the report of inspection of their facilities made by the Materials Reference Laboratory of the National Bureau of Standards during the most recent tour of such inspections and will submit a memorandum stating steps taken to remedy all deficiencies reported by this inspection.
2. The Testing Laboratory selected will meet "Recommended Requirements for Independent Laboratory Qualification", latest edition, as published by the American Council of Independent Laboratories.

B. Testing Machines:

Must be calibrated at intervals not exceeding 12 months by devices of accuracy traceable to the National Bureau of Standards or accepted values of natural physical constants.

C. Tests and Inspections:

Must be conducted in accordance with specified requirements, and if not specified, in accordance with the applicable standards of the American Society for Testing and Materials or other recognized and accepted authorities in the field.

1.03 AUTHORITIES AND DUTIES OF THE LABORATORY:

A. Attending Preconstruction Conferences:

The Testing Laboratory will obtain and review the Project plans and specifications with the Contractor as soon as possible prior to the start of construction. The Testing Laboratory will attend preconstruction conferences as required to coordinate materials inspection and testing requirements with the planned construction schedule. The Testing Laboratory will participate in such conferences throughout the course of the Project.

B. Outline Testing Program:

The Testing Laboratory will be responsible for outlining a written detailed testing program conforming to the requirements as specified in the Contract Documents and in consultation with the Owner and Design Professional. The testing program will contain an outline of inspections and tests to be performed with reference to applicable sections of the Contract Documents and the design drawings and specifications.

C. Cooperation with Design Team:

The Testing Laboratory will cooperate with the Owner, Design Professional, and Contractor and provide qualified personnel promptly on notice.

D. Inspections, Sampling, Testing, Reports and Certifications:

1. The Testing Laboratory will perform the required inspections, sampling, and testing of materials as specified under each Section of the Contract Documents and observe methods of construction for compliance with the requirements of the Contract Documents.
2. The Testing Laboratory will perform all inspections and submit all reports and certifications as required by all governing authorities.

E. Notification of Deficiencies in the Work:

The Testing Laboratory will notify the Owner and Contractor first by email of observed irregularities and deficiencies in the Work and other conditions not in compliance with the requirements of the Contract Documents.

F. Reports:

1. Information on Reports:
 - a. The Testing Laboratory will submit copies of all reports of inspections and tests promptly and directly to the parties named below. All reports will contain at least the following information:
 - (1) Project Name.
 - (2) Project Number.
 - (3) Date report issued.
 - (4) Testing Laboratory name and address.

- (5) Name and signature of inspector.
- (6) Date of inspection and sampling.
- (7) Date of test.
- (8) Identification of product and Specification Section.
- (9) Location in the Project.
- (10) Identification of inspection or test.
- (11) Record of weather conditions and temperature (if applicable).
- (12) Results of test regarding compliance with Contract Documents.
- (13) Deficiency log, including deficiencies from previous reports.

2. Copies:

- a. The Testing Laboratory will submit certified copies of all test and inspection reports promptly and directly to the following parties through the Owners Project Management Software Inspections and Tests modules:

- (1) Owner.
- (2) Contractor
- (3) Designer of Record.
- (4) supplier of the material tested.

3. Certification by Notary Public:

Upon completion of the job, the Testing Laboratory will furnish to the Owner a statement, under oath and notarized by a Notary Public, that all required tests and inspections were made in accordance with the requirements of the Contract Documents.

4. Accounting:

The Testing Laboratory will be responsible for separating and billing costs attributed to the Owner and costs attributed to the Contractor where appropriate, in accordance with the Contract Documents.

5. Obtaining Product and Material Certifications:

The Testing Laboratory will be responsible for obtaining all product and material certifications from manufacturers and suppliers as specified in the Specifications.

6. Limitations of Authority:

The Testing Laboratory is not authorized to revoke, alter, relax, enlarge upon or release any requirements of the Specifications or to approve or accept any portion of the Work or to perform any duties of the Contractor and its Subcontractors.

1.04 CONTRACTOR'S RESPONSIBILITY

A. Cooperation:

The Contractor will cooperate with laboratory personnel and provide access to the Work and manufacturer's operations.

B. Furnishing Samples:

The Contractor will provide to the laboratory representative samples of materials proposed for use in the Work in quantities sufficient for accurate testing as specified.

C. Furnishing Labor, Equipment and Facilities:

The Contractor will furnish labor, equipment, and facilities as required for sampling and testing by the laboratory and otherwise facilitate all required inspections and tests.

D. Advance Notice:

The Contractor will be responsible for notifying the Testing Laboratory sufficiently in advance of operations to allow for assignment of personnel and scheduling of tests.

E. Payment for Substitution Testing:

The Contractor will arrange with the Testing Laboratory and pay for any additional samples and tests above those required by the Contract Documents as requested by the Contractor for its convenience in performing the Work.

F. Notification of Source Change:

The Contractor will be responsible for notifying the Owner and Testing Laboratory when the source of any material is changed after the original tests or inspections have been made.

G. Tests for Suspected Deficient Work:

If, in the opinion of the Owner, any of the Work of the Contractor is not satisfactory, the Contractor will make all tests that the Owner deems advisable to determine its proper construction. The Owner will pay all costs if the tests prove the questioned work to be satisfactory.

H. Associated Services: The Contractor shall cooperate with the Owner and with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as requested. The Contractor shall notify the Owner and the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required of the Contractor include but are not limited to the following:

1. Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
2. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
3. Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.

4. Providing the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
5. Security and protection of samples and test equipment at the Project site.

1.05 PAYMENT OF TESTING LABORATORY

The Contractor will pay for the initial Testing Laboratory services for testing of materials for compliance with the requirements of the Contract Documents. The Contractor will pay for testing and retesting of materials that do not comply with the requirements of the Contract Documents and all other items as specified in these Specifications.

PART 2 - PRODUCTS

Not Used.

PART 3 – EXECUTION

3.01 SCOPE OF WORK

The work to be performed by the Testing Laboratory will be as specified in this Section and as determined in meetings with the Owner and Contractor. These are the Owner's minimum requirements; more stringent requirements may be required by the technical specifications.

END OF SECTION

SECTION 01505 - TEMPORARY FACILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Specific administration and procedural minimum requirements are specified in this Section as extensions of this Contract as modified and other Contract Documents. Provisions of this Section are applicable to, but not by way of limitation, utility services, construction facilities, security and protection provisions, and support facilities. This Section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection.
- B. The Contractor will furnish, install, maintain, and protect temporary utilities, construction facilities, and controls necessary for construction at locations and in a manner which will be safe, nonhazardous, sanitary, protective of persons and property, and free of deleterious effects.
- C. The Contractor will provide and maintain methods, equipment, and temporary construction as necessary to provide controls over environmental conditions at Project site and related areas under Contractor's control.
- D. The Contractor will remove physical evidence of temporary facilities upon completion of Work and restore site to original condition to satisfaction of Owner.
- E. The Contractor will provide temporary services and facilities ready for use when first needed to avoid delay in the Work. The Contractor will maintain, expand and modify as needed. Do not remove until no longer needed or replaced by authorized use of permanent facilities. Refer to Section 01315 - SCHEDULES, PHASING for additional requirements.
 - 1. Temporary construction and support facilities required include, but are not limited to:
 - a. Field offices, guard shack, and storage sheds.
 - b. Sanitary facilities, including drinking water.
 - c. Temporary enclosures.
 - d. Temporary Project identification signs and bulletin boards.
 - e. Waste disposal services.
 - 3. Security and protection requirements include, but are not limited to:
 - a. Temporary fire protection.

- b. Barricades, warning signs, lights.
- c. Environmental protection.
- d. Temporary enclosures.

1.02 GENERAL DEFINITIONS

- A. Energy Considerations: Administer the use of temporary facilities in a manner which conserves energy without delaying Work or endangering persons or property. The Contractor will comply with reasonable requests by the Owner.
- B. Costs: Except as otherwise indicated, Contractor will pay for all costs associated with the temporary facilities, including use charges. Temporary facilities remain the property and responsibility of the Contractor.
- C. Dust Control: Adequate measures will be taken by the Contractor to prevent the transfer of dust to all other areas.
- D. Noise Control: Where Work is being conducted in or adjacent to occupied areas, the Contractor will make every effort to keep construction noise to a minimum.
- E. Environmental Protection: Contractor will review exposure to possible environmental problems with the Owner and Design Professional. Contractor will establish procedures and discipline among tradesmen and provide needed facilities which will protect against environmental problems (erosion control at all laydown areas and trailer compounds, pollution of air, air quality, water and soil, excessive noise, and similar problems).

1.03 QUALITY ASSURANCE

- A. Regulations: The Contractor shall comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including, but not limited to:
 - 1. Building Code requirements.
 - 2. Health and safety regulations.
 - 3. Utility company regulations.
 - 4. Police, Fire Department and Rescue Squad rules.
 - 5. Environmental protection regulations.
- B. Standards: Comply with the requirements of NFPA Code 241, "Building Construction and Demolition Operations", ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and the NECA Electrical Design Library, "Temporary Electrical Facilities."
 - 1. The Contractor shall refer to "Guidelines for Bid Conditions for Temporary Job

Utilities and Services,” prepared jointly by AGC and ASC, for industry recommendations.

2. The Contractor shall comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA 70).

C. Inspections: The Contractor shall inspect and test each service before placing temporary utilities in use. The Contractor shall arrange for authorities having jurisdiction to inspect and test each temporary utility before use. The Contractor shall obtain required certifications and permits.

1.04 SUBMITTALS

A. Reports and Tests:

The Contractor shall submit copies of reports and permits required or necessary for installation and operation, including reports of tests, inspections and meter readings performed on temporary utilities and permits and legal description of easements necessary for installation, use and operation.

B. Implementation and Termination Schedule:

The Contractor shall submit a schedule indicating implementation and termination of each temporary utility within 15 days of the date established for commencement of the Work.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: The Contractor shall use qualified tradesmen for installation of temporary services and facilities, or to disconnect existing services or facilities that must be temporarily removed to complete the Work. The Contractor shall locate temporary services and facilities where they will serve the entire Project adequately and result in minimum interference with performance of the Work and the operation of the Airport.

B. The Contractor shall ensure that the proper permits are secured before starting any utility Work. The Contractor shall require that tradesmen accomplishing this Work be licensed as required by local authority for the Work performed.

C. The Contractor shall relocate, modify, and extend services and facilities, as required, during the course of the Work so as to accommodate the entire Work of the Project. The Contractor shall not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.02 TEMPORARY STAGING AREAS

- A. The staging area(s) located within the property defined as Tampa International Airport to be used to house the Contractor's field offices will be coordinated with Owner. The layout of the staging area(s) will be coordinated with the Owner.
- B. The Contractor may provide a trailer or portable type field office for its own use. Location of field office will be approved by the Owner. Costs for connections to utilities will be paid for by the Contractor. Water, electric and telephone may be available at that location. The Contractor is responsible for obtaining and paying for all utilities that it requires.
- C. The Contractor may erect and maintain throughout the life of the Contract, at Contractor's expense, a floor to ceiling plywood Type 1 barricade around the perimeter of each staging area used (or a six foot high chain link fence around the perimeter of each staging area used). Contractor may also install vehicle and pedestrian gates as necessary to provide adequate ingress/egress to its exclusive sites. The Contractor is solely responsible for its own security. Upon completion of all Work, Contractor shall remove all construction barricades from the Project site.

3.03 TEMPORARY STORAGE AND SPOIL AREAS

- A. The Contractor's vehicles, equipment, and materials will be stored in the staging area designated on the Drawings or as modified per the Owner. Upon completion of the Work, the storage areas will be cleaned-up and returned to their original condition to the satisfaction of the Owner. No special payment will be made for clean-up and restoration of the storage area. Personal vehicles will not be permitted beyond the Contractor's staging area. Drivers of personal vehicles being operated beyond the Contractor's staging area will be subject to loss of permission to enter the construction site.
- B. Stockpile areas will be used to store all materials needed for the Project and may or may not be fenced at the Owner's option. However, red flashing barricades will be installed where potential conflicts with air or ground vehicular traffic might occur. Stockpiles will not penetrate the FAR Part 77 imaginary surfaces. Stockpile areas will be used to store all materials needed for the Project and must be accommodated within the work area.
- C. If storage areas are needed, the Contractor will request them from the Owner. The request will be reviewed on the basis of what is to be stored and the area needed. The Contractor will provide all necessary fencing and/or security.
- D. All waste material, including rubble and debris, and environmental hazardous material will be removed from the Airport at the Contractor's expense. No hazardous materials will be stored within the Airport complex. Burning on Airport property is prohibited.
- E. Equipment not in use during construction, nights, and/or holidays will be parked in the staging area. Exceptions will only be approved by the Owner when absolutely necessary. Parking of construction worker's private vehicles will also be within the staging area.

3.04 TEMPORARY UTILITY INSTALLATION

A. General:

1. The Contractor will coordinate the requirements for temporary utilities with the Owner and will install at the Contractor's expense all necessary utilities in a safe, acceptable manner. Should leaks, breaks, etc., occur during installation or use, the Contractor will immediately notify the Owner and the appropriate utility personnel and promptly repair the utility so as to keep disruption of service to a minimum.
2. Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with the company's recommendations.
 - a. Arrange with the company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary service.
 - b. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 - c. Cost or use charges for temporary facilities are not chargeable to the Owner, with exception of the utilities furnished by the Owner as defined under Section 01505, Item 3.04, Paragraph B.1 and Item 3.04, Paragraph C.1., and will not be accepted as a basis of claims for a Change Order. All utility costs shall be at the Contractor's expense.

B. Water Service:

1. General: The Contractor will provide and pay for all water except within existing building structures where, if possible, the Owner will furnish water at the nearest available potable water outlet. Water connection (without charge) to Owner's existing potable water system is limited to one 3/4" pipe-size connection, and a maximum flow of 10 gpm to the cold water supply. The Contractor shall install using vacuum breakers or other backflow preventer as required by local authority.
 - a. The Contractor shall maintain hose connections and outlet valves in leak proof condition. Where finish work below an outlet might be damaged by spillage or leakage, the Contractor shall provide a drip pan of suitable size to minimize the possibility of water damage. The Contractor shall drain water promptly from pans as it accumulates.
2. Temporary Water Service Connection: Contractor may use the Owner's water as described above in Paragraph 3.04, B.1. for this Project; however, all connections to the Owner's water system will include backflow protection. Valves will be temperature and pressure rated for operation of the

temperatures and pressures encountered. After completion of use, connections and fittings will be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves will be piped to the nearest drain or located over an existing sink or grade where water will not damage existing finishes or equipment.

3. Water Hoses: The Contractor shall employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water into each work area. The Contractor shall provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment.
4. The Contractor shall install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use.
5. The Contractor shall sterilize temporary potable water piping prior to use.
6. Non-Potable Water: Where non-potable water is used, the Contractor shall mark each outlet with adequate health-hazard warning signs.

C. Electrical Service:

1. General: The Contractor will provide and pay for all electricity. The Contractor is responsible for obtaining and paying for all required permits and for temporary electric connections, maintenance, installation and removal, and other attributable costs.
 - a. The Contractor shall provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of Work during the construction period. The Contractor shall install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of Work.
 - b. The Contractor shall supply temporary electrical service to construction site utilizing a State of Florida Certified Electrician. Contractor will comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service.
 - c. The Contractor shall provide weather tight, grounded, temporary electrical service-entrance and distribution system, with automatic ground-fault circuit interrupters and ground-fault interrupter features of proper types, sizes, electrical ratings and characteristics to fulfill Project requirements during construction period.
 - d. The Contractor shall provide meters, transformers, and over current protective devices at main distribution panel for power and light circuitry. Provide disconnections for equipment circuits. The Contractor

shall coordinate installation of all temporary wiring with the Owner.

- e. The Contractor shall connect service to local power company main supply in the manner directed by utility company officials. The Contractor shall pay usage charges for electricity used by entities authorized to perform the Work at the Project site. The Contractor shall exercise control over power usage to conserve energy.
- f. Except where overhead service must be used, the Contractor shall install electric power service underground.
- g. The Contractor shall provide temporary power, telephone, and system connections, where required by the Owner, to continue operation of existing equipment or systems during construction.
- h. The Contractor shall replace all damaged receptacles. The Contractor shall provide temporary extension rings, wiring, boxes, and related hardware to allow power, telephone, and systems to function normally during the interim period between removal of existing surface treatment(s) and installation of new treatment.
- i. All electrical conductors for temporary power and lighting will be placed in conduits if exposed to public view. All temporary wiring for communication, security, fire protection and signal systems will be installed in accordance with all appropriate codes and will also be placed in conduits if exposed to public view.

2. Power Distribution System:

- a. All wiring and grounding will meet all safety requirements of the National Electrical Code and all federal, state and local requirements. In addition, all wire will be so sized that it is not overloaded according to the National Electrical Code, and all wire used will be fused to adequately protect that wire according to the National Electric Code referred to.
- b. The Contractor shall provide circuits of proper sizes, characteristics, and ratings for each use indicated. The Contractor shall install wiring overhead and risers vertically where least exposed to damage. The Contractor shall provide rigid steel conduit to protect wiring on grade, floors, decks or other areas exposed to possible damage.
- c. The Contractor shall provide properly configured NEMA polarized outlets to prevent insertion of 110-120 Volt plugs into higher voltage outlets. The Contractor shall provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light for connection of power tools and equipment.
- d. Electric power will be limited to 120-Volts for lighting and hand tools that can be operated on a circuit protected at 15-Amps.

- e. The Contractor shall provide grounded extension cords and use “hard service” cords where exposed to abrasion and traffic. The Contractor shall provide weatherproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress.

- f. Lockout: In all facilities, wherever possible, the Contractor shall lockout all existing power to or through the Work area as described below. Unless specifically noted otherwise, existing power and lighting circuits to the Work area are not to be used. All power and lighting to the Work area are to be provided from temporary electrical panel described below.
 - (1) The Contractor shall lockout power to Work area by switching of all breakers serving power or lighting circuits in Work area. The Contractor shall label breakers with tape over breaker with notation “DANGER circuit being worked on.” All panels shall be locked and all keys shall be under the control of Contractor’s Superintendent or the Owner.

 - (2) The Contractor shall lockout power to circuits running through Work area wherever possible by switching off all breakers serving these circuits. The Contractor shall label breakers with tape over breaker with notation “DANGER Circuit Being Worked On.” The Contractor shall sign and date danger tag All panels shall be locked and all keys shall be under the control of Contractor’s Superintendent or the Owner. If circuits cannot be shut down for any reason, the Contractor shall label at intervals 4'-0" on center with tags reading, “DANGER Live Electric Circuit Electrocutation Hazard.”

- g. Temporary Electrical Panel: The Contractor shall provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the Work. The Contractor shall connect temporary panel to existing facility electrical system. The Contractor shall protect with circuit breaker or fused disconnect. The Contractor shall locate temporary panel as directed by the Owner.

- h. Circuit Protection: The Contractor shall protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel. The Contractor shall not use outlet type GFCI devices.

- i. Temporary Wiring: Inside the Work area or above the Work platforms will be type UF non-metallic sheathed cable located overhead and exposed for surveillance. The Contractor shall not wire temporary lighting with plain, exposed (insulated) electrical conductors. The Contractor shall provide liquid tight enclosures or boxes for wiring devices.

- j. Number of Branch Circuits: The Contractor shall provide sufficient branch circuits as required by the Work. All branch circuits are to originate at temporary electrical panel.

F. Internet Service:

If available, the Contractor may install internet service at the Contractor's own expense. All charges will be paid by the Contractor.

3.05 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

A. General:

1. The Contractor shall locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access.
2. The Contractor shall maintain temporary construction and support facilities until no longer necessary for the Work.
3. The Contractor shall provide incombustible construction for offices, shops and sheds located within the construction area, or within 30 feet of building lines. The Contractor shall comply with requirements of NFPA 241.
4. The Contractor will furnish all temporary wiring, piping connection and other apparatus that is needed to operate the utilities and will remove all evidence of same when Work is complete.
5. The Contractor will be responsible for obtaining and paying for utilities that Contractor requests at the Project site, except for the utilities furnished by the Owner as defined under Section 01505, Item 3.04, Paragraph B1 and Item 3.04, Paragraph C1.
6. The Contractor will at all times protect excavations, trenches, buildings, and materials from rain water, ground water, backup and leakage of sewers, drains, other piping, and from water of any other origin, and will remove promptly all accumulation of water. The Contractor will provide and operate all pumps, piping and other equipment necessary to this end.
7. The Contractor shall provide facilities and services as necessary to effectively protect Project from losses and persons from injury during the course of the Work.
8. The existing utilities will not be modified for use by the Contractor.
9. The Contractor shall not interrupt existing services serving occupied or used facilities, except when authorized in writing by the Owner. The Contractor shall provide temporary services during interruptions to existing utilities, as

acceptable to the Owner.

10. The Contractor shall provide scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes, other facilities, and equipment required by personnel and required to perform Work and facilitate inspection.
11. The Contractor shall comply with reasonable requests of governing authorities performing inspections.
12. When permanent stairs are available for access during construction, the Contractor shall protect surface by covering to prevent damage and deterioration at time of Substantial Completion.

B. Field Offices:

The Contractor shall provide insulated, weather tight temporary offices of sufficient size to accommodate required office personnel at the Project site. The Contractor shall keep the office clean and orderly for Contractor's use, Owner's use and for progress meetings. The Contractor shall furnish and equip offices with adequate furniture, heat, air conditioning, lights, telephones, water cooler, private toilet complete with water closet, lavatory, mirror, medicine cabinet and janitor services. Location of field office will be approved by the Owner. Costs for connections to utilities (electrical power, water, sanitary sewer, etc.) will be paid for by the Contractor. Contractor is responsible for obtaining and paying for all utilities that Contractor requires, except for the utilities furnished by the Owner under Section 01505, Item 3.04, Paragraph B1 and Item 3.04, Paragraph C1.

C. Storage and Fabrication Sheds:

The Contractor shall install storage and fabrication sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on the Project site.

F. Sanitary Facilities:

1. The Contractor shall include temporary toilets, wash facilities and drinking water fixtures. The Contractor shall comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. The Contractor shall install where facilities will best service the Project's needs.
2. The Contractor shall provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. The Contractor shall provide covered waste containers for used material.
3. Toilets:

- a. Use of the Owner's existing toilet facilities will not be permitted.
- b. The Contractor shall install single occupant, self-contained toilet units of a chemical type, properly vented and fully enclosed with a shell of glass fiber, reinforced polyester or other similar non-absorbent material. Use of pit-type privies will not be permitted. The Contractor shall provide minimum ratio of one toilet per 25 construction personnel, or a greater number of toilets if required by governing regulations. The Contractor shall provide separate toilet facilities for male and female personnel. The Contractor shall thoroughly disinfect toilet facility a minimum of two times each week. The Contractor shall provide means to lock door from outside and keep locked at all times except during hours that construction personnel are at Project.

G. Wash Facilities:

1. The Contractor shall install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition. The Contractor shall dispose of drainage properly. The Contractor shall supply cleaning compounds appropriate for each condition.
2. The Contractor shall provide safety showers, eye-wash fountains and similar facilities for convenience safety and sanitation of personnel.

H. Drinking Water Fixtures:

The Contractor shall provide drinking water fountains including paper supply.

I. Drinking Water Facilities:

1. The Contractor shall provide containerized tap-dispenser bottled-water type drinking water units, including paper supply.
2. Where power is accessible, the Contractor shall provide electric water coolers to maintain dispensed water temperature at 45° to 55° F (7° to 13° C).
3. Drinking and Water Fixtures: The Contractor shall provide drinking water fountains where and when piped potable water, approved by local authorities, is reasonably accessible from permanent or temporary lines. Otherwise, the Contractor shall provide electric cooled bottled water type drinking water units spaced so that personnel at Project site will travel not more than 300 feet.
4. The Contractor will provide all temporary lines and connection from existing sources of the water as required for the Work. The Contractor shall be responsible for proper drainage of water used.

J. Dewatering Facilities and Drainage:

The Contractor shall maintain construction work free of water accumulation. The Contractor shall not endanger the Work or adjacent properties.

K. Miscellaneous Facilities:

The Contractor shall provide miscellaneous facilities as needed, including ladders, runways, shoring, scaffolding, railing, bracing, barriers, closures, platforms, temporary partitions, and similar items.

L. Temporary Enclosures:

1. The Contractor shall provide temporary enclosure for protection of construction in progress and completed from exposure, foul weather, other construction operations and similar activities.
2. Where heat is needed and the permanent building enclosure is not complete, the Contractor shall provide temporary enclosures where there is no other provision for containment of heat. The Contractor shall coordinate enclosure with ventilation and material drying or curing requirements to avoid dangerous conditions and effects.
3. The Contractor shall install Type 1 barricades securely with incombustible wood framing and other materials. The Contractor shall close openings of 25 square feet or less with plywood or similar materials.
4. The Contractor shall close openings through floor or roof decks and horizontal surfaces with load-bearing wood-framed construction.
5. Where temporary wood or plywood enclosure exceeds 100 square feet in area, the Contractor shall use UL-labeled fire-retardant treated material for framing and main sheathing. For job-built temporary offices, shops and sheds within the construction area, the Contractor shall provide UL labeled, fire treated lumber and plywood for framing, sheathing and siding.

M. Temporary Lifts and Hoists:

The Contractor shall provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities. The Contractor shall not permit employees to ride hoists which comply only with requirements for hoisting materials.

O. Project Identification and Temporary Signs:

1. The Contractor shall prepare project identification and other signs of the size indicated. The Contractor shall install signs where indicated to inform the public and persons seeking entrance to the Project.

2. Contractor's identification sign located at its staging area:
 - a. Contractor may provide one 8 foot x 4 foot x 3/4" exterior grade plywood sign, properly supported with bottom 6 foot above grade. The Contractor shall engage professional sign painter to apply graphics and lettering as approved by Owner. NO OTHER SIGNS ARE PERMITTED WITHIN THE AIRPORT COMPLEX.
 - b. All signs must be pre approved by Owner. Signs must follow the Owner's standards with regards to font, style, color, and size. When appropriate, the temporary sign shall closely resemble the final sign.

P. Stairs:

Until permanent stairs are available, the Contractor shall provide temporary stairs where ladders are not adequate. The Contractor shall cover finished permanent stairs with a protective covering of plywood or similar material so finishes will be undamaged at the time of acceptance.

3.05 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. General:

1. The Contractor shall provide a neat and uniform appearance in security and protection facilities acceptable to the Owner. The Contractor shall maintain site in a safe, lawful and publicly acceptable manner. The Contractor shall take necessary measures to prevent erosion.
2. Temporary Construction Barricades:
 - a. A barricade plan will be submitted to and approved by the Owner prior to the start of any Work. Following approval and subsequent installation of barricades, a representative from the Owner will inspect the Work to insure compliance with the barricade plan and the following requirements.
 - b. The Contractor will be fully responsible for the protection of the public and adjacent areas during the construction process. The Contractor shall safely isolate the construction areas while maintaining normal airport operations. The Contractor will use temporary barricades of the following types:
 - (1) Road Barricades:
 - Roadway barricades will be in accordance with FDOT Roadway and Design Standards and in accordance with the Contract Documents.

- c. If at any time barricades are not maintained to these standards, or if the public areas are not protected from excessive noise, dust, or other interference, the Contractor will be required to cease all Work until the non-conforming situation is corrected.
- d. The Contractor shall provide warning signs and lighting where needed, including steady burn red lights where appropriate. The Contractor shall comply with recognized standards and code requirements.
- e. Contractor will cooperate and coordinate with Owner for installation of all barricades to allow continuous Airport operations. Access will be maintained into all Building Tenant spaces and existing mechanical and electrical control devices.

B. Temporary Fire Protection:

Until fire protection needs are supplied by permanent facilities, the Contractor shall install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. The Contractor shall comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations."

1. The Contractor shall locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
2. The Contractor shall store combustible materials in containers in fire-safe locations.
3. The Contractor shall maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. The Contractor shall prohibit smoking in hazardous fire exposure areas.
4. The Contractor shall provide and maintain temporary fire protection during construction in accordance with requirements of the local protection code.
5. The Contractor shall provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil flammable liquid fires. In other locations, the Contractor shall provide type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case. Extinguishers will have a minimum UL rating of AZ-10BC.
6. The Contractor shall provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.

D. Security Enclosure and Lockup:

1. Storage:

Where materials and equipment must be stored and are of value or attractive for theft, the Contractor shall provide a secure lockup. The Contractor shall enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.

2. The Contractor shall erect weatherproof closures for exterior openings.

3. The Contractor shall erect and maintain dustproof partitions composed of gypsum board and wood studs to prevent spread of dust, fumes, and smoke to other parts of the building.

E. Environmental Protection:

1. The Contractor shall provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations and minimize the possibility that air, waterways and subsoil might be contaminated or polluted or that other undesirable effects might result. The Contractor shall avoid use of tools and equipment which produce harmful noise. The Contractor shall restrict use of noise-making tools and equipment to hours that will minimize complaints from persons or firms near the Project site.

2. The Contractor shall install and operate temporary facilities and perform construction activities in a manner which will be reasonably conservative and avoid waste of energy and materials including water.

3. The Contractor shall provide facilities, establish procedures, and conduct construction activities in compliance with regulations controlling construction activities at Project site.

4. The Contractor shall designate one person to enforce strict discipline on activities related to generation of wastes, pollution of air, water, and soil, generation of noise, and similar harmful or deleterious effects which might violate regulations or reasonably irritate persons at or in vicinity of Project site and inform Owner of designee.

F. Dust Control:

The Contractor shall provide positive methods and apply dust control materials to minimize raising dust from construction operations. The Contractor shall provide positive means to prevent airborne dust from dispersing into atmosphere.

G. Water Control:

1. The Contractor shall provide methods to control surface water to prevent damage to Project site and adjoining properties.
2. The Contractor shall control fill, grading, and ditching to direct surface drainage away from excavations, pits, tunnels, and other construction areas, and to direct drainage to proper runoff.
3. The Contractor shall provide, operate, and maintain hydraulic equipment of adequate capacity to control surface and runoff water.
4. The Contractor shall dispose of drainage water in manner that prevents flooding, erosion, or other damage to any portion of Project site or adjoining areas.

H. Pest and Rodent Control:

1. The Contractor shall provide pest and rodent control as necessary to prevent infestation of construction or storage area.
2. The Contractor shall employ methods and use materials which will not adversely affect conditions at Project site and on adjoining properties.
3. Should use of rodenticides or pesticides be considered necessary, the Contractor shall submit informational copy of proposed program to Owner. Clearly indicate:
 - a. Area or areas to be treated.
 - b. Materials to be used, with copy of manufacturer's printed instructions.
 - c. Pollution preventative measures to be employed.
4. Use of any rodenticide or pesticide will be in full accordance with manufacturer's printed instructions and recommendations.
5. Before foundation Work has been completed, the Contractor shall retain a local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches and other pests. The Contractor shall employ this service to perform extermination and control procedures at regular intervals so that the Project will be relatively free of pests and their residues at Substantial Completion of the whole Work. The Contractor shall perform control operations in a lawful manner using environmentally safe materials.

I. Debris Control:

1. The Contractor shall maintain areas under Contractor's control free of extraneous debris.

2. The Contractor shall initiate and maintain specific program to prevent accumulation of debris at construction site, storage and parking area, or along access roads and haul routes.
 - a. The Contractor shall provide containers for deposit of debris as specified.
 - b. The Contractor shall prohibit overloading of trucks to prevent spillages on access and haul routes.
 - c. The Contractor shall provide periodic inspection of traffic areas to enforce requirements.
3. The Contractor shall schedule daily collection and disposal of debris.
4. The Contractor shall provide additional collections and disposal of debris whenever periodic schedule is inadequate to prevent accumulation.
5. The Contractor shall transport debris and waste material in covered trucks.

J. Pollution Control:

The Contractor shall:

1. Provide methods, means, and facilities required to prevent contamination of soil, water, or atmosphere by discharge of noxious substances from construction operations.
2. Provide equipment and personnel and perform emergency measures required to contain any spillage, and remove contaminated soil or liquids.
3. Excavate and dispose of contaminated earth off site in accordance with local environmental regulations and replace with suitable clean, compacted fill and topsoil.
4. Take special measures to prevent harmful substances from entering public waters.
5. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams or in sanitary or storm sewers.
6. Provide systems for control of atmospheric pollutants.
7. Prevent toxic concentrations of chemicals.
8. Prevent harmful dispersal of pollutants into atmosphere.

K. Erosion Control:

The Contractor shall:

1. Plan and execute construction and earthwork by the following methods to control surface drainage from cuts and fills and borrow and waste disposal areas and to prevent erosion and sedimentation:
 - a. Hold areas of bare soil exposed at one time to minimum.
 - b. Provide temporary control measures, such as berms, dikes, and drains.
2. Construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.
3. Periodically inspect earthwork to detect any evidence of start of erosions. Apply corrective measures as required to control erosion.
4. Maintain all SWPPP (Storm Water Pollution Prevention Plan) protocols during construction and correct any damaged areas due to the failure to maintain such protocols adequately.

L. Collection and Disposal of Waste:

1. The Contractor shall collect waste from construction areas and elsewhere daily. The Contractor shall comply with requirements of NFPA 241 for removal of combustible waste material and debris. The Contractor shall enforce requirements strictly. The Contractor shall not hold materials more than seven days during normal weather or three days when the temperature is expected to rise above 80 deg F (27 deg C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. The Contractor shall dispose of material in a lawful manner.
2. In case of non-compliance with the above, the Owner, after having given a 24-hour notice, has the right to take any corrective action required at the expense of the Contractor.
3. Burying or burning of waste materials on the Project site or washing waste materials down sewers will not be permitted.
4. The Contractor shall provide rodent proof containers on each floor level to encourage depositing of wastes by construction personnel.

3.06 OPERATION, TERMINATION AND REMOVAL

A. Supervision:

The Contractor shall enforce strict discipline in use of temporary facilities. The Contractor shall limit availability of temporary facilities to essential and intended uses to minimize waste and abuse. The Contractor shall not permit temporary installations to

be abused or endangered.

B. Maintenance:

1. The Contractor shall maintain facilities in good operating condition until removal. The Contractor shall protect from damage by freezing temperatures and similar elements.
2. The Contractor shall maintain operation of temporary enclosures, heating, cooling, humidity control ventilation and similar facilities on a 24-hour day basis where required to achieve indicated results and to avoid possibility of damage. The Contractor shall not allow unsanitary conditions, public nuisances or hazardous conditions to develop or persist on the Project site.

C. Protection:

The Contractor shall prevent water filled piping from freezing. The Contractor shall maintain markers for underground lines. The Contractor shall protect from damage during excavation operations.

D. Termination and Removal:

1. The Contractor shall remove each temporary service and facility promptly when need for has ended or when replaced by use of a permanent facility, but no later than Final Acceptance of the whole Work. Complete or if necessary restore permanent Work delayed because of interference with the temporary service or facility. The Contractor shall repair damaged Work, clean exposed surfaces and replace Work which cannot be repaired.
2. At Substantial Completion of the whole Work, the Contractor shall clean and renovate permanent services and facilities that have been used to provide temporary services and facilities during the construction period.
3. At Substantial Completion of the whole Work, the Contractor shall clean and renovate permanent facilities that have been used during the construction period.

END OF SECTION

SECTION 01520 - TEMPORARY SIGNAGE

PART 1 - GENERAL

1.01 DESCRIPTION

Provide all Work including all equipment, appliances, labor, materials, related electrical work, transportation and all operations required to provide temporary signs as specified herein or as instructed by the Owner.

1.02 QUALITY ASSURANCE

A. Qualifications:

1. Contractor will submit evidence of having successfully completed a contract of similar nature and magnitude and will have at least five years of documented experience in the type of Work specified herein.
2. Where special job conditions occur or where there is uncertainty as to interpretation, before execution of the Work, Contractor will request clarification from the Owner in writing.
3. Contractor will visit the Project site to determine specific installation and job conditions.
4. Commencement of work will constitute an unqualified acceptance by the Contractor of the installed Work on which signage work depends and that work as installed is suitable for the satisfactory execution of signage work.

B. Requirements of Regulatory Agencies:

1. Work performed under this Section will be strictly governed by local and state authorities of this expertise.
2. Maintain safety amongst persons employed in accordance with latest standards set by OSHA.

1.03 SUBMITTALS

A. In accordance with Section 01340 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, submit the following:

1. Shop Drawings
 - a. Submit Shop Drawings for review prior to fabrication of all items furnished under this Contract.
 - b. Submit Shop Drawings for approval prior to fabrication of all items furnished under this Contract.
 - c. Exact identification of all paint formulas and colors.

2. Contractor will not order any materials or perform any construction, demolition or fabrication until all submittals have been reviewed and approved.
3. Any construction, demolition or fabrication performed or materials ordered prior to the approval of the prototypes will be done at the Contractor's own risk and expense.
4. Approval by the Design Professional of the Contractor's submittal relates to the requirements for design and compliance with the Contract Documents only.
5. Approval does not relieve the Contractor from responsibility for errors in dimension or for inadequate or improper use of materials for construction.

1.04 SEQUENCING AND COORDINATION

Integrate and schedule coordination of removal, installation and all work related to signage with other related trades.

1.05 REMOVAL AND STORAGE

- A. This portion of the Work will be included in the Contract Sum and not included in the Allowance.
- B. Contractor will remove and reuse all existing signage in accordance with the Contract Documents.
- C. All signs, extrusions, graphic or signage material will be carefully disassembled, removed from premises and stored by the Contractor prior to refurbishing and reinstallation.
- D. All signs, extrusions, graphic or signage material will be carefully protected with wrapping material and will be on palettes, platforms or other support structures and not stored directly on the floor during construction operations.
- E. All signs, extrusions, graphic or signage materials will not be exposed to damaging conditions or abrasion during removal, storage, fabrication, delivery or installation.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. To establish a standard of quality, design, and function desired, portions of the Contract Documents have been based on the products of manufacturers mentioned hereafter.
- B. All materials shown on the Contract Documents will be of the best quality products available.
- C. All additional parts necessary to complete fabrication and installation will be furnished by the Contractor.
- D. Should conflicts occur in or between the Drawings, sign schedules, Specifications and

on-site conditions, Contractor shall notify Owner and Contractor is deemed to have included under the Contract Sum the more expensive item or method of construction.

- E. All message patterns will be die cut.

2.02 VINYL SHEETING (for lettering and Authority Logos)

- A. Manufacturer: 3M Traffic Controls Divisions or equal
2860 Bankers Industrial Drive
Atlanta, GA 30360
- B. Type: "Scotchlite" Reflective Sheeting Engineer Grade or equal Parkway White 3290 (for lettering) and Blue and Red for logos.
- C. Thickness: 3.5 Mils
- D. Adhesive Backing: Continuous pressure sensitive backing manufactured by Minnesota Mining and Manufacturing Company or equal.

2.03 POLYURETHANE PAINTS - EXTERIOR

- A. Manufacturer: Sherwin Williams
- B. Type: Acrylic polyurethane

2.04 PLYWOOD

- A. Manufacturer: Simpson or equal
- B. Type: MDO

2.05 WOOD

- A. All wood will be kiln dried, select furniture of quality A or better, for all exposed surfaces.
- B. Interior wood blocking or framing will be kiln dried, Wolmanized "B" grade or better.

PART 3 - EXECUTION

3.01 GENERAL

- A. Where adhesive mounting is specified, only adhesives specifically recommended by the manufacturer for compatibility with the base materials and adhesive strength will be used.
- B. Sign material lamination will utilize proper adhesives and will be smooth, consistent and free of bubbles, bulging and foreign matter.
- C. All message pattern applications will be crisp, sharp, clean and free of nicks, discontinuous curves, line wavers and other imperfections.

- D. All finished work will be smooth, free of scratches, gouges and other imperfections. Sign edges will be straight, smooth, free of cutting marks and other defects.
- E. Contractor will repair and replace damaged materials or signs caused by installer or any other related trades.
- F. Contractor will coordinate with other related trades the removal and installation of signage and components to insure uninterrupted progress of Work.

3.02 FABRICATION

- A. All Work will be fabricated to approved Shop Drawings.
- B. All cuffing, fabrication, and assembly will be done in the factory and shipped to the Project site as one complete unit, unless otherwise approved by the Owner.
- C. All joints, corners, miters, splices, or signage will be accurately machined, filled, fitted and rigidly framed together at joints and contact points and will be painted smooth to produce a monolithic appearance with visually imperceptible joints.
- D. All mechanical fasteners will be counter-sunk, filled, ground smooth, and painted as to render them visually imperceptible, unless otherwise specified as exposed.
- E. The heads of removable mounting fasteners will match the color and finish of the sign area where they occur.
- F. Work will be erected plumb, level, and true, with proper alignment and proper relationship to the work of the trades.
- G. All priming, surface preparation and paint application will be in accordance with the manufacturer's written data, description and instruction.
- H. All signs will be flat, true, and free from waviness. All exposed surfaces will not deviate from flat by more than 1/16 inch in any 36 inch distance.

3.03 MESSAGE PATTERNS

- A. The Contractor will fabricate sign text from master alphabet and master symbols approved by the Owner and Design Professional. Interior signage will be Furtiger 65 Bold at 106% spacing and exterior signage will be Furtiger 55 Roman at 106% spacing.
- B. Full size message patterns for each sign will be prepared by the Contractor. These patterns will be used for correction and/or additions prior to fabrication. Changes will be considered as part of the scope of work.
- C. All vinyl message patterns used for final sign application will be die cut and not hand cut from vinyl, unless otherwise approved by the Design Professional in writing.
- D. Sign text mechanicals are not to be enlarged for position only and are not to be used for photographic reproduction.

- E. All panel or background sizes will be full size showing seam placement.
- F. Full scale message patterns will be submitted on paper showing proper size of the alphabet, airport logo or any other message legend. Hand drawn patterns are not acceptable.

3.04 LETTER FORMS AND SYMBOLS

- A. Letter forms for all signs will match existing airport sign letter forms and symbol standards.
- B. All letter forms and symbols will be free of nicks, burns, cuts, bubbles and any other irregularities.
- C. All symbols or forms used for final sign application or final finishing will be die cut. Hand cut letters or symbols are not acceptable.

3.05 MATERIALS CLEANING AND INSTALLATION

- A. Examine backup surfaces to determine that corners are plumb and straight, surfaces are smooth, uniform, clean and free from foreign matter, nails countersunk, and holes, joints and cracks filled flush and smooth with adjoining surface prior to attaching signage.
- B. Do not commence installation until backup materials are in a condition satisfactory to the Contractor to receive surfacing.
- C. Applications of adhesives should comply with adhesive manufacturer's application instructions on the container regarding:
 - 1. Method of application
 - 2. Spread rate
 - 3. Drying-time
 - 4. Open time
 - 5. Temperature and relative humidity limitations.

3.06 VINYL SHEETING AND DIE CUTS

- A. Text material for finished letter form, symbol or friskets on all signs, unless otherwise noted, will be die-cut pressure sensitive and will be pre-aligned and pre-spaced on carrier tape according to the sign text layouts.
- B. Hand cut finished letter forms, symbols or friskets will not be accepted.
- C. Vinyl sign text material for all sign types will be die cut and conform to the prescribed letter forms with a tolerance of +.015 inches and will be free of irregularities such as

nicks, burrs, broken points and discontinuous curves.

- D. All letter sizes indicated on the sign text layouts will be determined by the letter height of the capital "B."
- E. All letters, symbols and targets will be pre-aligned and pre-spaced on carrier tape in accordance with the spacing guides.
- F. The colors will be as specified and will not be limited to manufacturer's standard colors.
- G. All vinyl sign text will be installed as per written instructions and recommendations of the manufacturer.
- H. All surfaces receiving application of vinyl sign text will first be cleaned of all dirt and/or accumulated foreign matter.

3.07 PAINTS AND INKS

- A. All paints and inks will be of type specially formulated and manufactured for application on the surface material upon which it is to be applied and recommended for such use by the manufacturer on the paint or ink.
- B. Priming, surface preparation and application of all materials will be in strict accordance with manufacturer's written product data and description and as otherwise necessary to produce data with a finish free of blistering, bleeding, fading and other imperfections.
- C. Order or mix paint for each color in quantity to assure consistent application for all signs in a given color.
- D. All paint and ink colors and samples will match specified manufacturer's color number, swatches and/or samples supplied by the Owner and will be as selected and approved by the Owner during shop drawing review.
- E. All paint colors will be consistent in chroma and value and will maintain proper opacity or translucency.
- F. All paint and inks will be of the finest quality of heat, moisture and fade proof pigments and vehicles. For each color specified on sign schedule, paint will be mixed in sufficient quantity to accommodate every sign application of the specified color.
- G. The Contractor will allow paint surfaces to air dry 48 hours prior to the application of masking film which will be applied to protect all sign surfaces during shipping and erection.

3.08 PAINTING APPLICATION

All painting and spraying will be performed in well ventilated conditions and all precautions taken as necessary and as recommended by the paint manufacturer.

3.09 TEMPORARY SIGNAGE

- A. Temporary signage will conform to all conditions, Specifications and Drawings.
- B. All temporary signage will be finished to appear as permanent signage.
- C. All cuts and rounded edges will be smooth sanded prior to painting.
- D. All edges will be painted to match the front of sign as per painting specifications.
- E. Backs of sign will be painted where installation of sign shows exposed back.
- F. Refer to Owner's Allowances Section for temporary signage allocation.3.10 CLEANUP
- G. The Contractor will be obliged to keep all areas and items clean, neat, and free of waste material, dirt and debris during construction and installation.
- H. After installation is complete, remove and dispose of all packing, packaging, waste materials and debris.
- I. All areas and items will be left clean and free from marks, scratches, dust, lint and other defects.

END OF SECTION

SECTION 01540 - CONSTRUCTION SAFETY AND SECURITY REQUIREMENTS

PART 1 – GENERAL

1.01 PURPOSE AND OBJECTIVE

- A. The purpose of this section is to set forth guidelines concerning safety and security during construction of the Project. The following methods, procedures, rules and authorities must be adhered to during project construction., The Hillsborough County Aviation Authority (HCAA) Construction Safety & Security Guidelines Manual applies to the project, and the Contractor will also comply with all safety requirements described below, unless in direct conflict with the HCAA Construction Safety & Security Guidelines Manual. In such case, the more stringent requirements will govern, as determined by Owner.
- B. The following are the general safety objectives that must be achieved in order to maximize safety and to minimize time and economic loss to the aviation community, construction contractors and others directly affected by the Project.
 - 1. Keep the Airport safe for all users.
 - 2. Keep the Airport operational for all users.
 - 3. Maintain safety of Airport operations.
 - 4. Minimize delays to Airport operations.
 - 5. Minimize delays to construction operations.
 - 6. Minimize Airport-operation/construction-activity conflicts.
 - 7. Minimize impacts to tenants and passengers.

1.02 OPERATIONAL SAFETY ON AIRPORT DURING CONSTRUCTION

- A. All of Contractor's operations will be conducted in accordance with this Section. If the operations include work within the AOA or impacts the AOA or aircraft flight surfaces, the operations will be conducted in accordance with the current version of Advisory Circular 150/5370-2. The Contractor will prepare and submit a site specific safety plan (safety plan) that details how it proposes to comply with the requirements when working.
- B. The Contractor will implement all necessary measures required by the safety plan prior to commencement of any work activity. The Contractor will conduct routine checks of the safety plan measures to assure compliance with the safety plan.
- C. The Contractor is responsible to the Owner for the conduct of all subcontractors it employs on the Project. The Contractor will assure that all subcontractors are made aware of the requirements of the safety plan and that they implement and maintain all necessary measures.
- D. No deviation or modifications may be made to the approved safety plan unless approved in writing by the Owner.
- E. This Contract is intended to provide for the optimum degree of safety to aircraft, both parked and operating; Airport personnel, passengers and general public, equipment,

and associated facilities; and to the Contractor's operations consistent with minimum interference to the movement of aircraft, vehicles, and/or personnel engaged in the day-to-day operation of the Airport. To this end, the Contractor will observe all Airport rules and regulations and all other operational limitations which may be imposed from time to time. Contractor will provide marking, lighting, barricades, signs, or other measures which are required to properly identify Contractor's construction areas, Work sites, equipment, vehicles, storage areas, and/or conditions which may be hazardous to Airport operations.

- F. If the Contractor fails to maintain the marking, lighting barricades, signs, etc., as required, the Owner will cause appropriate safety measures to be installed by others and all costs thereof will be charged to the Contractor and deducted by the Owner from monies due to the Contractor.
- G. The Contractor's responsibility for safety and security will begin on the day the Contractor starts Work or on the date of the Notice To Proceed and will continue until Contractor is complete.
- H. The Contractor is fully and solely responsible for all project safety as it pertains to the Contractor's Work. This includes complying with the Hillsborough County Aviation Authority Construction Safety & Health Guidelines Manual, if applicable, implementing and enforcing its safety plan and procedures. Owner's acceptance, directives, approval, comments or any such action regarding Contractor's safety plan or Work shall not relieve the Contractor of its obligations.

1.03 SAFETY PROCEDURES

- A. In as much as each Work area will be accessible to and used by the public, the Owner, airlines, and other companies doing business at the Airport during the construction period, it is the Contractor's responsibility to maintain each Work area in a safe, hazard free condition at all times. This will include barricades, fencing, taping up sharp corners or any other precautions necessary to protect the public. Should the Owner find an area unsafe at any time, Owner will notify the Contractor and the Contractor will take whatever steps necessary to remedy the unsafe condition. Should the Contractor not be immediately available for corrective action, the Owner will cause appropriate safety measures to be installed by others and all costs thereof will be charged to the Contractor and deducted by the Owner from monies due to the Contractor.
- B. Fire Control: Open flame torch cutting or welding is prohibited unless adequate safety precautions have been taken and approved by the Owner via Owner's cutting and welding permit process. Flame cutting will be permitted only on steel parts that cannot be removed in any other manner and only when at least one person is standing by exclusively with a fire extinguisher within ten feet of the Work and within full view of the area. The fire extinguisher will have been inspected, tagged and ready for use. The Contractor will submit a fire protection plan for approval prior to conducting the Work requiring said protection plan.
- C. Work Near Fire Alarm: Caution will be exercised as necessary when working near fire alarms so as not to accidentally activate fire alarms, doors or barriers.
- D. Protection of Property: Fixed structures, equipment, paving, landscaping, vehicles

(automobiles, trucks, etc.) and aircraft will be protected with drop cloths, shielding and other appropriate measures to assure maximum protection.

- E. Use of explosively operated fastening devices within the confines of any Owner facilities or within Tampa International Airport is strictly prohibited, unless Owner provides prior written approval and Design-Builder provides safety plan.

1.04 GENERAL SAFETY REQUIREMENTS

- A. An initial construction/safety meeting will be coordinated with the Owner after the award of the Contract, and prior to commencing construction, during which the Contractor will become aware of and assume responsibility for all safety issues. Additional construction/safety meetings may be scheduled as deemed necessary by the Owner throughout the Contract. Representatives from the Owner, Contractor, Design Professional, and any others deemed necessary by the Contractor may attend.
- B. The Contractor will inform its supervisors and workers of the Airport activity and operations that are inherent to this Airport, the safety regulations of the Airport, and the prohibition of driving or walking on any area of the AOA without clearance. The Contractor will conduct its construction activities to conform to both routine and emergency requirements. The Contractor will provide initial and continuing instructions to all supervisors, employees, subcontractors, and suppliers to enable them to conduct their Work in a manner that will provide the maximum safety with the least hindrance to air and ground traffic, the general public, Airport employees, and to the workers employed on the Project site.
- C. Work may be stopped/suspended by the Owner anytime the Owner considers that the intent of this Section is being violated or that a hazardous condition has been/was created. This decision to suspend the Work will be final and will only be rescinded by the Owner when satisfied that the Contractor has taken action to prevent recurrence. Delays/work stoppage as a result of the suspension of Work will be considered the fault of the Contractor and will not stop the Contract Time for assessing liquidated damages.
- D. All Contractor vehicles authorized to operate on the Airport outside of the Construction Area Limits as defined herein and to cross active runways, safety areas, taxiways, aprons, instrument or approach clear zones or any area within the AOA will do so only under the direct control of a trained, qualified flagman who is monitoring (two-way) radio communication with the ground controller of the Air Traffic Control Tower or UNICOM. All aircraft have priority over ground vehicles.
 - 1. When necessary, the Contractor will provide a radio to monitor communications from the Air Traffic Control Tower or UNICOM. This operator will be familiar with aircraft/ground controller communications and will be on duty whenever vehicles are operating in areas referenced above.
 - 2. All vehicles operating in the AOA will be equipped with an operating yellow flashing beacon.
- E. All Contractor vehicles and equipment that are authorized to operate on or near the AOA or the Airport outside of the designated Construction Area Limits or haul routes as

defined herein will display 3-foot by 3-foot flags or larger, orange and white checkerboard pattern, each checkerboard color being 1-foot square.

- F. Any construction activity within 250-feet of an active runway centerline or 107-feet from an active taxiway centerline requires the closure of the affected runway or taxiway, unless otherwise approved by the Owner. No runway, taxiway or apron area will be closed without approval of the Owner. This will enable "Notices to Airmen" or other advisory communications to be issued. A minimum of 48 hour notice of requested closing will be directed to the Owner who will coordinate the request with Authority Operations.
1. Debris, waste and loose material capable of causing damage to aircraft landing gears, propellers or being ingested in jet engines will be removed from the active portion of the AOA, placed in protected areas or otherwise secured to prevent dispersal into active portions of the AOA. The AOA is defined as all areas used or intended to be used for aircraft operations including active runways, aprons, taxiways, taxi lanes, etc. Debris will be promptly removed from the AOA. The Contractor will exercise care in the transportation of materials within the AOA. Materials tracked or spilled in the AOA will be removed immediately.
 2. When hauling, loading, grading, or when any of the Contractor's activities are likely to cause the deposit of loose materials in the AOA, powered vacuum sweepers will patrol the affected areas continuously to remove such deposits. The sweepers will be supplemented by hand sweepers, loaders, trucks, etc., as necessary.
 3. Closures:
 - a. Prior to the commencement of any demolition or other Work which will cause an interruption or modification to existing aircraft operations, the Contractor will confer with and obtain authorization from the Owner.
 - b. If the Contractor requires access to operational areas not delineated on the Drawing(s), the Contractor will participate in discussions leading to the imposition of restrictions on Airport operations in the affected areas. Contractor will strictly abide by all conditions imposed by the Owner relating to Contractor's entry and use of such areas and Contractor will not enter these areas until granted temporary, conditional entry clearance by the Owner.
 - c. Unless otherwise described in the Contract Documents, trenching, excavation and other work requiring temporary runway or taxiway closure will be limited by the Contractor to that amount of work that can be completed within the hours of minimal operation. All ditches, excavations, etc., will be restored prior to the end of the Work period and affected pavements returned to service. This Work will be scheduled during hours of minimal operations. Hours of minimal operation will be the hours between 10:00 p.m. and 6:00 a.m. All other hours will be hours of normal operation.

- d. The Contractor may be required to pursue affected portions of the Work on a continuous 24-hour per day basis during construction of the various phases and sub phases shown on the Drawings and described in the Contract Documents (such as when runways or taxiways, aprons, service or access roadways, or service gates are closed for operations or when hazards of any kind arise).
 - e. The Owner will arrange for inspection prior to opening for aircraft use any taxiway that has been closed for Work, on or adjacent thereto, or that has been used for a crossing point or haul route by the Contractor.
4. Operations Safety Inspections:
- a. The entire Project site will be inspected once per work shift and more frequently if construction activities are of a nature that debris may accumulate on AOA pavements. Special inspections will be conducted for each Work area prior to return to service for aircraft operation. The purpose of these inspections is to ascertain that areas returned to aircraft service are in satisfactory condition and that the overall Project site and its activities are within the safety criteria set forth in these Contract Documents. Inspections will be conducted jointly by representatives of the Contractor and the Owner.
 - b. Any violations of safety criteria found during these inspections will be rectified immediately. If a violation cannot be corrected on an immediate basis by the Contractor, the Contractor will immediately notify the Owner. No areas will be approved for operations with violations occurring unless specifically authorized by the Owner.
- G. The Contractor will preserve and/or protect existing and new pavements plus other facilities from damage due to construction operations. Existing pavements and facilities which are damaged will be replaced or reconstructed to original strength at the Contractor's expense. The Contractor will take immediate action to reconstruct any damaged area which is to remain in service. Unless indicated on the Drawings, existing pavements will not be cut for the installation of any utilities. Jack and bore or directional bore method will be required.
- H. Construction Area Limits:
- 1. Contractor will be required to conform to safety requirements contained in FAA Advisory Circular 150/5370-2. Construction within the safety areas or Obstacle Free Zone (OFZ), as defined in FAA Advisory Circular 150/5300-13, latest edition is prohibited for both runways and taxiways. For Aircraft Group V pavements, this is 250 feet from the runway centerline and 107 feet from the taxiway centerline. The activity limits will be adequately signed and marked by the Contractor to preclude violation of this restriction. The area will be well identified by warning signs and lights at night. The Contractor will install lighting, marking, barricades, signs and other measures to delineate closed and hazardous areas during construction. The guidance and procedures provided by

FAA Advisory Circular AC 150/5340-1, "Standards for Airport Markings," will be utilized as depicted on the Drawings. Barricades will be weighted or otherwise secured to sufficiently prevent displacement by aircraft engine and propeller blast and ambient winds. Steady burning red obstruction lights may be required in certain instances to supplement lighted barricades or highlight hazardous or potentially dangerous objects. The location of these lights will be as requested in the field by the Owner. Obstruction lights and barricades will not be located within runway, taxiway and/or taxi lane obstacle clearance areas.

2. The limits of construction, material storage area, plant site, equipment storage area, parking area and other areas defined as required for the Contractor's exclusive use during construction will be marked by the Contractor. The Contractor will erect and maintain around the perimeter of these areas suitable marking and warning devices visible for day/night use. Temporary fencing, barricades, flagging and/or flashing warning lights will be required at critical access points. Type of marking and warning devices will be approved by Owner. Open trenches, excavations and stockpiled materials will be permanently marked with flags and lighted by approved light units during hours of reduced visibility and darkness. No separate pay item is included for this Work and all costs must be included in the Contract Sum.

J. During construction, the Contractor will maintain these areas in a neat condition. Upon completion of the Work, the staging and storage areas will be cleaned-up and returned to their original condition to the satisfaction of the Owner. Remove all construction fencing and barricades from the Project site. No special payment will be made for clean-up and restoration of the storage area. Personal vehicles will not be permitted beyond Contractor's Construction Area. Drivers of personal vehicles being operated beyond this Contractor's Construction Area will be subject to loss of permission to enter the construction site.

K. Intermittent Construction Operations:

1. Construction activity may require closing of certain areas by the Owner, including the AOA. However, some Work may be done on an intermittent basis. The Contractor will maintain constant communication with the Owner when working and immediately obey all instructions from the Owner. Failure to so obey instructions or maintain constant communications with the Owner will be cause to suspend the Contractor's operations in the areas until satisfactory conditions are assured.
2. When directed to cease Work and move from the area, the Contractor will immediately respond and move all material, equipment and personnel outside areas. Operations will not be resumed until directed by the Owner. Every reasonable effort will be made by the Owner to cause minimum disturbance to the Contractor's operations. However, no guarantee can be made as to the extent to which disturbance can be avoided. Contractor's claim for additional Contract Time or Contract Sum for any such disruption will not be accepted.

3. Open trenches or excavations exceeding 3-inches in depth and 3-inches in width will not be permitted within 250-feet of the centerline of an active runway or within 100-feet of the centerline of active taxiways and taxi lanes. If an area is to be opened to aircraft movement, either at night or during the day, the Contractor will decrease the drop off to 3-inches by placing compacted fill. This fill will taper away from the paved area at a 5% maximum slope to existing grade. There is no separate payment for this temporary construction.
4. Disruptive Work will be defined as any activity, including excessive noise, air pollution, dust, and similar events that adversely disrupts, hinders or impacts normal Airport operations. These activities will be conducted so as not to interfere with the normal operation of the Airport. Work which may be considered disruptive will be conducted by the Contractor during the middle of the night hours as designated by the Owner. When directed by the Owner to cease Disruptive Work, the Contractor will immediately suspend and discontinue the Disruptive Work. Work will not be resumed until directed by the Owner. Contractor's claim for additional cost or additional Contract Time for suspending of Disruptive Work will not be accepted.

L. Limitation of Operations:

1. When the Work requires the Contractor to operate on or adjacent to any public area, the operation will be coordinated with the Owner at least 72-hours prior to commencement of the Work. At no time will the Contractor close a public area until authorization to do so is granted by the Owner.
2. When the Contract Work requires the Contractor to operate on or adjacent to the apron or taxiway AOA, the operation will be coordinated with the Owner at least 72-hours prior to commencement of the Work. At no time will the Contractor close an AOA until authorization to do so is granted by the Owner and until temporary marking and associated lighting is provided and in place as specified in FAA Advisory Circular 150/5340-1, "Marking of Paved Area on Airports" and/or the Drawings and Specifications.
3. The Contractor will be responsible for controlling its operations and those of its subcontractors so as to provide for the free and unobstructed movement of all passengers and private vehicles on the Airport.
4. The Contractor will be responsible for controlling its operations and those of its subcontractors so as to provide for the free and unobstructed movement of aircraft in the apron and taxiway areas of the Airport AOA.

M. Obstructions to Navigation:

1. Penetrations of the imaginary surfaces defined in FAR Part 77 will not be permitted without advance notification of and approval by the Owner and the FAA Tower Chief. It may be necessary to file a Temporary Permit Application with the Owner to obtain approval prior to operation of exceptionally tall equipment. This includes any penetrations whatsoever by the Contractor, including but not limited to vehicles, cranes, other construction equipment,

structures, stockpiled materials, excavated earth, etc.

2. When penetrations are unavoidable they will be brought to the attention of the Owner and the FAA as far in advance as is practical to allow Notices to Airmen (NOTAMS) to be prepared and distributed to appropriate FAA divisions for publication and dissemination.
3. Appropriate sketches will be prepared by the Contractor with precise locations shown on the Airport Layout Plan along with elevations depicting the obstruction object's relationship to the imaginary surfaces.
4. The maximum height allowed on the Airport is subject to review by the Owner unless, in special instances, this requirement is waived by the Owner and the FAA. During times when the safety of flight operations could be impaired, particularly during Instrument Flight Rules (IFR) weather, or when the equipment is idle, all booms, towers and other movable appendages will be lowered to the maximum extent.

N. Emergency Procedures:

1. The Contractor will familiarize itself with Airport emergency procedures and will endeavor to conduct its operations so as not to conflict with them. Clear routes for crash/fire/rescue equipment will be maintained in operable condition at all times.
2. Emergency Procedure: In case of an emergency caused by an accident, fire, or personal injury or illness, Airport Police are to be immediately notified by Page Phone found throughout the Terminal buildings or by calling them at 911 or Airport Police Emergency Phone No. (813) 870-3911. The caller must accurately report the location and type of emergency. Airport Police will then coordinate with Owner and/or other outside emergency agencies as necessary.

O. Access to the Construction Site:

1. The Contractor's access to the site will be defined by the Owner. This access route may also be used by Airport employees or others. **No other access routes will be allowed unless approved by the Owner. At Tampa International Airport, the vertical clearance in the Short Term Parking Garage is 6'-8". No vehicle taller than 6'-8" will be allowed to operate in the Short Term Parking Garage structure. The vertical clearance in the Long Term Parking Garage is 7'-10". No vehicle taller than 7'-10" will be allowed to operate in the Long Term Parking Garage structure. No vehicle taller than 13'-6" will be allowed to operate on the first floor of the Economy Parking Garage structure or 8'-0" on all levels above the first floor.** All Contractor traffic authorized to enter the site will be experienced in the route or guided by the Contractor's personnel. The Contractor will be responsible for traffic control to and from the various construction areas on the site. The Contractor will be responsible to verify and coordinate with all vertical clearances for the George J. Bean Parkway, Bessie Coleman Service Road, Red and Blue Side Arrivals, Departure and Crossover

Drives, as well as all other ramps, roads, drives and overpasses over and along or otherwise a component of the Contractor's access route.

2. The Contractor will familiarize its employees with the route. Material and equipment delivery trucks will be accompanied by an employee of the Contractor familiar with the route. The Contractor will be responsible for access control through any AOA access gate for the duration of this Contract. This access control will be for all personnel. Any AOA access gate will be manned, whenever unlocked, by a licensed, bonded security agency guard, contracted by the Contractor. Contractor personnel are not acceptable substitutes for the licensed, bonded security agency guard.
3. The Contractor will monitor and coordinate all Contractor traffic with the Owner. The Contractor will not permit any unauthorized construction personnel or traffic on the site, including food and beverage vendors or caterers. If breaches of security occur, the Owner may, at the Owner's option, close the AOA gates until adequate actions have been taken to prevent further breaches of security.
4. The Contractor will provide and operate an escort vehicle to lead other vehicles when operating within the site.
5. The following procedure will be used for access to site by AOA unauthorized persons:
 - a. The unauthorized person will inform the gate guard of their reason for entrance to the site and which Contractor they intend to visit.
 - b. Guard will notify the Contractor by telephone.
 - c. Contractor will go to gate and escort visitor to Contractor facility.

The Contractor will provide and operate an escort vehicle to lead other vehicles when operating within the AOA.

6. The Contractor is responsible for immediate cleanup of any debris deposited along the access route as a result of Contractor's construction traffic. The entire access route and construction site will be kept free and clean of all debris at all times, will be maintained in good repair by the Contractor or its agents, and will be immediately repaired to the satisfaction of the Owner. Directional signing along the delivery route to the storage area or work site will be as directed by the Owner.

P. Load Restrictions:

1. The Contractor will comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the Work. A special permit will not relieve the Contractor of liability for damage which may result from the moving of material or equipment.

2. The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over the base course or surface course under construction will be limited as directed. No loads will be permitted on a concrete pavement, base, or structure before the expiration of the curing period. The Contractor will be responsible for all damage done by Contractor's hauling equipment and will correct such damage at Contractor's own expense.
3. It is especially noted that the existing Airport pavements may not be capable of supporting certain types of construction equipment. Prior to submitting the Bid, the Contractor will fully satisfy itself as to the ability of the existing Airport pavements to satisfactorily sustain the type of equipment Contractor plans to use. Should damage occur as a result of construction operations, the Contractor will repair the damaged areas to an acceptable condition at Contractor's expense.

1.05 Contractor's Security Requirements:

- A. General Intent: It is intended that the Contractor will comply with all requirements of the Airport Security Plan and with the Safety Plan specified herein. Also, if applicable, the Contractor will execute the Airport Access Request Form and follow all rules and guidelines stated therein. The Contractor will designate to the Owner, in writing, the name of its Contractor Security Officer (CSO). The CSO will be the Contractor's representative on the "Construction Security Committee" and will be accountable for these security requirements for the Contractor. The Contractor will also comply with all requirements concerning sensitive security information as promulgated by the TSA.
- B. Contractor Security Personnel Orientation: The CSO will be responsible for all safety precautions. Prior to the commencement of the Work, the CSO will provide the Owner an outline of a proposed accident and fire protection plan for all Work contemplated under the Contract. The CSO will also conduct safety meetings as directed by the Owner for each shift and require the attendance of all supervisors at such meetings. Copies of the minutes of safety meetings will be kept on file in the Contractor's Office.
- C. Identification - Personnel: All employees of the Contractor or subcontractors requiring access to the construction site are required to be supplied with identification badges to be worn at all times while within the area. Badges will be supplied by the Contractor and will state "**TPA – (North Air Cargo Roof) Contractor.**" Badges can be plastic wallet size, metal pin or sticker with a minimum of 2-1/2" diameter and worn on outer garments so as to be clearly visible. Badging is to be uniform in appearance and sufficiently distinctive in design or color to clearly distinguish, on sight, employees assigned to this Contract. The badge number will be prominent for easy identification. Badges are to be identified numerically and issued individually to whom it was assigned. Blocks of numbers can be assigned to subcontractors. Responsibility for supply issuance and control of identification badges will be that of the Contractor, through the CSO.

In addition, for all Work within the AOA at Tampa International Airport only, the Contractor's onsite supervisors will be badged with Airport ID badges provided by

Authority Operations. Supervisors requiring unescorted access to the Security Identification Display Area (SIDA) will be subjected to a FBI fingerprint-based Criminal History Records Check (CHRC) and a Transportation Security Administration Security Threat Assessment (STA). An ID badge will not be issued to an individual until they successfully pass a CHRC and STA.

New applicants applying for a TPA ID badge will continue to be charged for the CHRC and an additional STA fee based upon the expiration length from date of issue. The new STA fees will also apply to ID badge renewals. Each time an individual renews their ID badge (including lost, stolen, name change, etc.), the authorized issue will be charged the STA fee (depending on expiration date period). Contractor shall inquire as to the current applicable rates for the above fees.

Personnel will wear the badge on outermost garment at all times while on the AOA. All employees of Contractor or subcontractor requiring access to the construction site are required to be supplied with identification badges to be worn at all times while within the area. Blocks of numbers can be assigned to subcontractors. Responsibility for supply issuance and control of identification badges will be that of the Contractor, through the CSO and the Owner. The Contractor will be assessed Three Hundred Dollars (\$300.00) in liquidated damages for each security badge that is not returned to the Owner at the time of badge expiration or Project completion. These liquidated damages will be paid promptly by the Contractor by company check, or the amount will be withheld by Owner from payments due to the Contractor. Contractor agrees that liquidated damages described herein are not a penalty and are reasonable considering the impacts that a Breach of Security could have to public safety and welfare and the operations of the Airport.

- D. Identification - Vehicles: The Contractor, through the CSO, will establish and maintain a list of Contractor and subcontractor vehicles authorized to operate on the Project site and will issue a TPA validation sticker to each vehicle to be made available upon demand by the Owner or any Airport Security Officer. Vehicle validation sticker will be placed on the front left portion of the vehicle and be assigned in a manner to assure positive identification of the vehicle at all times. In lieu of issuing individual vehicle permits, the CSO can require each vehicle to display a large company sign on both sides of the vehicle and advise the Owner of a current list of companies authorized to enter and conduct Work on the Airport.
- E. Identification – Equipment: The Contractor will clearly identify all on-site equipment such as portable motorized or non-motorized equipment, job boxes, material storage containers, port-a-lets, etc., whether owned or rented, with the Contractor’s name. Identification must be physically marked on equipment or attached with a durable removable device such as a wire tie.
- F. Employee Parking:
 - 1. Area for parking of the Contractor's employee's vehicles is in the Contractor's Construction Area or Staging Area to be defined by the Owner. Parking will be accomplished in straight equally spaced rows. Contractor will organize traffic flow and parking patterns, and supply traffic control signs and markings subject to approval of the Owner. Maintain the parking surface and pick up trash daily. No

storage will be allowed at parking site. The Contractor will restore the shape and grade of this parking area upon Project completion, seed and mulch portions where existing ground cover is damaged and perform all Work required to restore the area to its original condition.

2. When the Contractor's employee parking area is adjacent to another Contractor's parking area performing other construction for the Owner, cooperation is required to avoid any interferences in the performance of each respective construction. Any difficulties experienced will be brought to the attention of the Owner immediately.
 3. All vehicles entering any public parking garages will be required to pay the normal parking fee which will be calculated at the exit. Free parking will not be authorized.
- G. Materials Delivery to the Site: All Contractor's material orders for delivery to the Work site will use as a delivery address the street name and number assigned to the access point onto the Airport.
- H. Breach of Security Fine: Contractor agrees that liquidated damages in the amount of Ten Thousand Dollars (\$10,000.00) per occurrence will be assessed against the Contractor if the Contractor violates the requirements of the Airport Security Plan or the Security requirements specified herein. Contractor agrees that actual damages for breach of security are uncertain and the liquidated damages described herein are not a penalty and are reasonable considering the impacts that a Breach of Security could have to public safety and welfare and the operations of the Airport.
- Notwithstanding the foregoing, repeated and/or flagrant violations of the Security Plan will be grounds for the suspension of the Work at no cost to the Owner, default of the Contractor and/or termination of the Contract.
- I. Amendments to this Safety Plan and Security requirements may be made by the Owner and will be immediately binding on Contractor.

END OF SECTION

SECTION 01545 - UTILITIES

PART 1 - GENERAL

1.01 GENERAL

- A. Existing facilities, utilities, and features depicted on the Drawings are not guaranteed to be accurate with respect to location, condition, and characteristics. Also, there may be additional facilities, utilities, and features existing that could affect the construction of the Work which are not depicted or described in the Contract Documents.
- B. Prior to Bidding, the Contractor will make a thorough investigation of the Project area to satisfy itself as to the location, condition, and characteristics of any and all facilities, utilities, and features which may affect Contractor's Work. No additional compensation will be made for any extra expense relating to an existing facility, utility, or feature.
- C. The Contractor hereby agrees to make no claims against the Owner and/or its representatives relating to the existence, or lack thereof, location, condition, and/or characteristics of any existing facilities, utilities, or features.
- D. Contractor will pay for the removal and installation of all utilities required by the Contract Documents.

1.02 PROTECTION OF EXISTING UTILITIES

- A. The term "utilities" includes FAA power and control cables, TECO power lines, other power lines, telephone cables, lines and fiber optics, Sheriff's Department lines, elevator control cables, airline communication cables, computer cables, airfield lighting cables, Owner underground electrical and communication lines, cables and fiber optics, water lines, irrigation lines, HVAC equipment, sanitary force mains, sanitary lines, stormwater lines and fuel and gas lines. These utilities may be located in the areas of construction. Disruption of these utilities could seriously disrupt the operation of the airport. Although the Drawings attempt to locate the cables and all utilities including fuel and gas lines, actual locations are uncertain and the Contractor is required to verify all locations.
- B. To the extent that such public and private utility services, FAA facilities, or utility services of another government agency are known to exist within the limits of the Work, the approximate locations have been indicated on the Drawings and some, but not all, utility services and FAA facilities are indicated as follows:

Utility Service or Facility Person to Contact Telephone
(To the best of the Owner's knowledge, the below information is correct, but it may change without notice.)

FAA Control Cables	Mr. Charles Hinnant, FAA	(813) 371-7751
HCAA	Mr. Nick D'Jimas	(813) 676-4346
TECO	Mr. Drew Sirianni	(813) 228-1639
Fuel Lines	Mr. Christopher Perea	(813) 396-3626
Irrigation Lines	Mr. Bruce Sather	(813) 870-7883

City of Tampa - Water	Mr. Chad Bailey	(813) 274-3344
City of Tampa – Wastewater	Mr. Ryan Smith	(813) 274-7844

- C. Any intentional, temporary interruption of existing utilities for the purpose of carrying out the Work will be carried out so as to minimize the length and scope of the interruption. Before any such interruption, Contractor will give a minimum of 72 hours written notice to the Owner and will also give at least 72 hours' notice to the appropriate "Person to Contact" listed in Paragraph B of this Section.
- D. The Owner reserves the right to authorize the construction, reconstruction, or maintenance of any public or private utility service, FAA or National Oceanic and Atmospheric Administration (NOAA) facility, or a utility service of another government agency at any time during the progress of the Work.
- E. Contractor will not permit any individual, firm, or corporation to excavate or otherwise disturb such utility services or FAA facilities located within the limits of the Work without the written permission of the Owner.
- F. Should the Owner, public or private utility service, FAA, or NOAA facility, or a utility service of another government agency be authorized to construct, reconstruct, or maintain such utility service or FAA facility during the progress of the Work, the Contractor will cooperate with such utility service or FAA facility by arranging and performing the Work in this Contract so as to facilitate such construction, reconstruction, or maintenance by others. In addition, the Contractor will control its operations to prevent the unscheduled interruption of such utility services, FAA facility, and other facilities. It is understood and agreed that the Contractor will not be entitled to make any claim due to such authorized construction by others or for any delay to the Work resulting from such authorized construction. The Contractor will coordinate all Work with all utility services, FAA facility, or other facility.
- G. To the extent that such public or private utility services, FAA or NOAA facilities, or utility services of another governmental agency are known to exist within the limits of the Contract Work, the approximate locations can be obtained by the Contractor from the Owner.
- H. It is understood and agreed that the Owner does not guarantee the accuracy or the completeness of the location information relating to existing utility services, FAA facilities or structures that may be shown on the Drawings or encountered in the Work. Any inaccuracy or omission in such information will not relieve Contractor of its responsibility to protect such existing features from damage or unscheduled interruption of service.
- I. It is further understood and agreed that Contractor will, upon execution of the Contract, notify all utility services, FAA facility, or other facilities of the Contractor's plan of operations. Such notification will be in writing addressed to the Person to Contact as provided herein. A copy of each notification will be given to the Owner.
- J. In addition to the general written notification hereinbefore provided, it will be the responsibility of the Contractor to keep such individual utility service or FAA facility

advised of changes in Contractor's plan of operation that would affect such utility service or FAA facility.

- K. Prior to commencing the Work in the general vicinity of an existing utility service or FAA facility, the Contractor will (1) Call Sunshine 811, and (2) again notify each such utility service or FAA facility in writing, copying the Owner, of Contractor's plan of operations. If, in the Contractor's opinion, assistance is needed to locate the utility service or FAA facility or the presence of a representative of the utility service or FAA facility is desirable to observe the Work, such advice will be included in the written notification. Such notification will be given by the most expeditious means to reach the utility service or FAA facility Person to Contact no later than two business days prior to the Contractor's commencement of operations in such general vicinity. The Contractor will furnish a written summary of the notification to the Owner.
- L. Failure of the Contractor to properly coordinate in advance Work on or near existing utilities will be cause for the Owner to suspend Contractor's operations in the general vicinity of such utilities.
- M. Power and control cables leading to and from any FAA facilities will be marked in the field by the local FAA Airway Facilities Sector personnel for the information of the Contractor before any Work in the general vicinity is started. Thereafter, through the entire time of the Work, the Contractor will not allow any construction equipment to cross these cables without first protecting the cable with steel boiler plate or similar structural devices on 3-feet either side of the marked cable route. All excavation within 3-feet of existing cables will be accomplished by hand digging only. No grading will be permitted over FAA cables under any conditions.
- N. Approval to work in areas where active utility services or FAA facilities are located is subject to withdrawal at any time because of change in the weather, emergency conditions on the existing airfield areas, anticipation of emergency conditions, or for any other reason determined by the Owner or the designated FAA and/or utility service representative. All instructions by the Owner, the utility service, or the FAA facility (by radio or other means) to the Contractor to clear any given area, at any time, will be immediately executed. Construction Work will be commenced in the cleared area only when additional instructions are issued by the Owner.
- O. FAA CABLES AND UTILITIES MUST BE PROTECTED AT ALL TIMES.
- P. Where the outside limits of an underground utility service or FAA facility have been located and staked on the ground, the Contractor will be required to use excavated methods acceptable to the Owner within 3-feet of such outside limits at such points as may be required to insure protection from damage due to the Contractor's operations.
- Q. If damage occurs to any utilities, the Contractor may be assessed a fee of \$2,000 liquidated damages per cut per cable, line or strand, which liquidated damages will only represent the expense incurred by the Owner in coordinating the repair, and which will not prevent the Owner or others from recovering from the Contractor other costs, damages, or expenses of any other nature incurred on account of damages to utilities. Contractor agrees that damages for cut cables are uncertain and these liquidated damages are reasonable and are not a penalty and a reasonable consideration of the

impact that damage to utilities could have to the operation of the Airport. There is no intention to double count damages under this provision.

- R. FAA FACILITIES AND CABLE RUNS. The Contractor is hereby advised that the construction limits of the Project include existing facilities and buried cable runs that are owned, operated and maintained by the FAA. The Contractor, during the prosecution of the Project work, will comply with the following:
1. The Contractor will permit FAA maintenance personnel the right of access to the Project work site for purposes of inspecting and maintaining all existing FAA owned facilities.
 2. The Contractor will notify the above named FAA Airway Facilities Point-of-Contact seven days prior to commencement of construction activities in order to permit sufficient time to locate and mark existing buried cables and to schedule any required facility outages.
 3. If prosecution of the Project work requires a facility outage, the Contractor will contact the above named FAA Person to Contact a minimum of 72 hours prior to the time of the required outage.
 4. If prosecution of the Project work results in damages to existing FAA equipment or cables, the Contractor will repair the damaged item in conformance with FAA Airway Facilities' standards to the satisfaction of the above named FAA Point-of-Contact.
 5. If the Project work requires the cutting or splicing of FAA owned cables, the above named FAA Point-of-Contact will be contacted a minimum of 72 hours prior to the time the cable work commences. The FAA reserves the right to have an FAA Airway Facilities representative on site to observe the splicing of the cables as a condition of acceptance. All cable splices are to be accomplished in accordance with FAA Airway Facilities' specifications and require approval by the above named FAA Point-of-Contact as a condition of acceptance by the Owner. The Contractor is hereby advised that FAA Airway Facilities restricts the location of where splices may be installed. If a cable splice is required in a location that is not permitted by FAA Airway Facilities, the Contractor will furnish and install a sufficient length of new cable that eliminates the need for any splice.
- S. Should the Contractor damage or interrupt the operation of a utility service or FAA facility by accident or otherwise, Contractor will immediately notify the proper utility service or FAA facility and the Owner and will take all reasonable measures to prevent further damage or interruption of service. The Contractor, in such an event, will cooperate with the utility service or FAA facility and the Owner continuously until such damage has been repaired and service restored to the satisfaction of the utility service or FAA facility.
- T. The Contractor will immediately repair, at Contractor's own expense, with identical material by skilled workers, all utilities, FAA cables, and other facilities which are damaged by Contractor's workers, equipment, or work. Prior approval of the appropriate utility service and/or FAA facility and Owner will be obtained for the

materials, workers, time of day or night, method of repairs, and for any temporary or permanent repairs the Contractor proposes to make to any FAA cables or utility service damaged by the Contractor.

- U. Airport publicly owned facilities and privately owned facilities located on Airport property, including underground cables, pavements, piping, buildings, turfed areas, vehicles and other facilities/improvements, that are damaged by the Contractor will, at the election of the Owner, (1) be replaced/repared by the Contractor to the satisfaction of the Owner or (2) be replaced/repared by the Owner at the Contractor's expense.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01560 - PREVENTION, CONTROL AND ABATEMENT OF EROSION
AND WATER POLLUTION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This specification includes requirements for prevention, control and abatement of erosion, siltation and water pollution resulting from construction of the Project until Final Acceptance.
- B. Contractor will comply with all applicable provisions of local Codes concerning grading, filling, excavation, and soil removal.

1.02 PERMITS

It will be the responsibility of the Contractor to obtain all federal, state, and local permits and to conduct its Work in the manner designated by all applicable permits. Violations of any permit by the Contractor will in no way involve the Owner regardless of who obtained the permit initially.

1.03 ECOLOGICAL REQUIREMENTS

- A. Contractor shall take sufficient precautions to prevent pollution of rivers, streams, lakes, tidal waters, reservoirs, canals and other water impoundments with fuels, oils, bitumens, calcium chloride or other harmful materials. Also, Contractor shall conduct and schedule operations so as to avoid interference with movement of migratory fish. No residue from dust collectors or washers will be dumped into any live stream.
- B. Construction operations in rivers, streams, lakes, tidal waters, reservoirs, canals and other water impoundments will be restricted to those areas where it is necessary to perform filling or excavation to accomplish the Work shown in the Plans and to those areas which must be entered to construct temporary or permanent structures. As soon as conditions permit, rivers, streams, lakes, tidal waters, reservoirs, canals and other water impoundments will be promptly cleared of all obstructions placed therein or caused by construction operations.
- C. Except as necessary for construction, excavated material will not be deposited in rivers, streams, lakes, tidal waters, reservoirs, canals and other water impoundments, or in a position close enough thereto to be washed away by high water or runoff.
- D. Contractor shall not disturb lands or waters outside the limits of construction except as may be found necessary and authorized by the Owner.

1.04 SCHEDULING/COORDINATION

- A. Clearing and grubbing will be so scheduled and performed that grading operations can follow immediately thereafter. Grading operations will be so scheduled and performed that permanent erosion control features can follow immediately thereafter if conditions

on the Project permit.

- B. Contractor shall schedule operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations, and the duration of exposed, uncompleted construction to the elements will be as short as practicable.

1.05 PROTECTION OF STORM DRAINS

- A. Storm drainage facilities, both open and closed conduit, serving the construction area will be protected from pollutants and contaminants by Contractor.
- B. If the Owner determines that siltation of drainage facilities has resulted due to the Project, the Owner will advise the Contractor to remove and properly dispose of the deposited materials. At the Owner's sole discretion, the Contractor may be directed to camera the line to ensure that all siltation or materials have been removed. Cost for this work will not be an increase to the Contract Lump Sum amount.
- C. Should the Contractor fail to or elect not to remove the deposits, the Owner will provide maintenance cleaning as necessary and charge all costs of such service against the amount of money due or to become due the Contractor.

1.06 PREVENTION, CONTROL AND ABATEMENT REQUIREMENTS

- A. Contractor shall provide, install, construct, and maintain all coverings, mulching, sodding, sand bagging, berms, slope drains, hay and straw bales, sedimentation structures, or other devices necessary to meet City, State and Federal regulatory agency codes, rules and laws, and as indicated on the Drawings.
- B. The locations of and methods of operation in all detention areas, borrow pits, material supply pits and disposal areas furnished by the Contractor will meet the approval of the Owner as being such that erosion during and after completion of the Work will not likely result in detrimental siltation or water pollution.
- C. The Owner may limit the surface areas of unprotected erodible earth exposed by clearing and grubbing, excavation or filling operations and may direct the Contractor to provide immediate erosion or pollution control measures to prevent siltation or contamination of any river, stream, lake, tidal water, reservoir, canal, and other water impoundment or to prevent damage to the Project or property outside the Project limits.

PART 2 – PRODUCTS

Not used.

PART 2 – EXECUTION

Not used.

END OF SECTION

SECTION 01561 - CONSTRUCTION CLEANING

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Contractor shall execute daily cleaning during progress of Work. Contractor shall execute final cleanup prior to Substantial Completion and again prior to Final Acceptance.
- B. Hazards Control:

Contractor shall:
 - 1. Store volatile wastes in covered metal containers.
 - 2. Remove containers from premises daily.
 - 3. Prevent accumulation of wastes which create hazardous conditions.
 - 4. Provide adequate ventilation during use of volatile or noxious substances.
- C. Contractor shall conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws:
 - 1. Contractor shall not burn or bury rubbish and waste materials on Project site.
 - 2. Contractor shall not dispose of volatile wastes, such as mineral spirits, oil, or paint thinner, in storm or sanitary drains.
- D. Contractor shall transport waste materials and debris across Airport property in covered trucks.

PART 2 - PRODUCTS

2.01 MATERIALS

Contractor shall use cleaning materials recommended by manufacturer of surface to be cleaned which will not create hazards to health or property and which will not damage surfaces.

PART 3 - EXECUTION

3.01 CLEANING DURING CONSTRUCTION

- A. Contractor shall execute periodic cleaning to keep building, grounds, and public properties free of accumulation of waste materials, rubbish, and wind-blown debris resulting from construction operations.
- B. Contractor shall apply protective covering on newly installed Work where reasonably required to ensure freedom from damage or deterioration at time of Substantial Completion and Final Acceptance. Contractor shall clean and perform maintenance on

other newly installed Work as frequently as necessary through remainder of construction period.

- C. Contractor shall adjust and lubricate operable components to ensure operability without damaging effects.
- D. Contractor shall furnish on-site containers for collection of waste materials, debris, and rubbish.
- E. Contractor shall remove waste material, debris, and rubbish from Project site daily.
- F. Contractor shall not drop or throw materials from heights.
- G. Contractor shall continue cleaning daily until building is ready for occupancy.

3.02 DUST CONTROL

Contractor shall:

- A. Clean interior building areas prior to start of finish painting or special coatings.
- B. Wet down materials and rubbish to prevent blowing dust.
- C. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

3.03 FINAL CLEANING

- A. Contractor shall provide final cleaning of the Work, including all adjacent protection areas surface or unit of Work to normal "clean" condition expected for a first-class building cleaning and maintenance program. Contractor shall comply with manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required:
 - 1. Removal of labels which are not required as permanent labels.
 - 2. Cleaning of transparent materials, including mirror, window, and door glass, to polished condition. Remove substances which are noticeable as vision obscuring materials.
 - 3. Replacing of broken glass and damaged transparent materials.
 - 4. Cleaning of exposed exterior and interior hard-surfaced finishes to dirt-free condition, free of dust, stains, films, and similar noticeable distracting substances.
 - 5. Restoring of reflective surface to original reflective condition.
 - 6. Wiping of surfaces of mechanical and electrical equipment clean, including elevator equipment.

7. Removal of excess lubrication and other substances.
 8. Removal of debris and surface dust from limited access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, and similar spaces.
 9. Broom cleaning of concrete floors in non-occupied spaces.
 10. Vacuum cleaning of carpeted surfaces and similar soft surfaces.
 11. Cleaning of plumbing fixtures to sanitary condition, free of stains, including those resulting from water exposure.
 12. Cleaning of equipment to condition of sanitation ready and acceptable for intended use.
 13. Cleaning of light fixtures and lamps to function with full efficiency.
 14. Cleaning of Project site, including landscape development areas, of litter and foreign substances.
 15. Sweeping of paved areas to broom-clean condition. Remove stains, petrochemical spills, and other foreign deposits.
 16. Raking of grounds which are neither planted nor paved to smooth, even-textured surface.
- B. Contractor shall remove waste materials from Project site daily and dispose of in a lawful manner.
- C. Protection - Limiting Exposures: Contractor shall supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
- D. Removal of Protection:
- Contractor shall remove temporary protection devices and facilities which were installed during course of the Work to protect previously completed Work during remainder of construction period.

END OF SECTION

SECTION 01600 - MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 TRANSPORTATION AND HANDLING

Contractor shall:

- A. Deliver, handle, and store products in accordance with manufacturer's recommendations and by methods and means which will prevent damage, deterioration, and loss, including theft.
- B. Control delivery schedule to minimize long-term storage of products at Project site from overcrowding of construction spaces. Coordinate delivery and installation to minimize holding of storage times for products recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other sources of loss.
- C. Deliver products in undamaged conditions, in manufacturer's original containers and prepackaging, with identifying labels intact and legible.
- D. Immediately upon delivery, inspect shipments for compliance with requirements of Contract Documents and accepted submittals and to verify that products are properly protected and undamaged.
- E. Promptly remove unsatisfactory materials from Project site.
- F. Furnish equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.
- G. Provide transportation and delivery F.O.B. Project Site.

1.02 STORAGE

Contractor shall:

- A. Store materials subject to damage from exposure to weather in weather tight storage facilities of suitable size with floors raised above ground. Materials not subject to weather damage may be stored on blocks off ground.
- B. Store fabricated products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store products subject to damage by elements in weather tight enclosures. Maintain temperature and humidity within range required by manufacturer's instructions.
- C. Cover materials which are subject to deterioration with impervious sheet covering providing adequate ventilation to avoid condensation.
- D. Store loose granular materials in well-drained area on solid surfaces to prevent mixing with foreign matter and cover during inclement weather. Store cementitious and clay products clear of earth or concrete floors, away from walls.

- E. Arrange storage in manner to permit easy access for inspections.
- F. Protect metal from damage, dirt, or dampness. Furnish flat, solid support for sheet products during storage.
- G. Make periodic inspections of stored materials to verify that products are maintained under specified conditions and are free from damage or deterioration.
- H. Not use materials in Work which have deteriorated, become damaged, or are otherwise unfit for use.
- I. Store and mix paints in assigned room or area kept under lock and key.
- J. Remove oil, rags, and other combustible materials daily, store in covered metal containers and take precautions to prevent fire hazards.
- K. Not load structure during construction by storing materials with load greater than structure can bear safely.

PART 2 - PRODUCTS

2.01 MATERIAL AND EQUIPMENT INCORPORATED INTO WORK

Contractor shall:

- A. Comply with applicable Specifications and Standards.
- B. Comply with size, make, type, and quality specified or as specifically accepted in writing by Owner.
- C. Design, fabricate, and assemble products in accordance with engineering and shop practices normal to trade.
- D. To greatest extent possible, for each unit of Work, provide products, materials, or equipment of singular generic kind and from single source.
- E. Manufacture like parts of duplicate units to standard interchangeable sizes and gages. Two or more items of same kind may be identical by same manufacturer.
- F. Provide products suitable for service conditions.
- G. Adhere to equipment capacities, sizes, and dimensions shown or specified unless variations are specifically accepted in writing.
- H. Not use material or equipment for any purpose other than that for which it is designed or is specified.
- I. Nameplates:

1. Not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view either in occupied spaces or on exterior of Work, except for Testing Laboratory approval labels and operating data.
 2. Locate required labels and stamps on concealed surface or, where required for observation after installation, on accessible surface which in occupied spaces are not conspicuous.
- J. Equipment Nameplates:
1. Provide permanent nameplate on each item of service-connected or power-operated equipment.
 2. Indicate manufacturer, product name, model number, serial number, capacity, speed, ratings, and similar essential operating data.
 3. Locate nameplates on an easily accessed surface which, in occupied spaces, is not conspicuous.
- K. Provide products which comply with requirements, which are undamaged and unused at time of installation, and which include accessories, trim, finish, safety guards, and other devices and details needed for installation, intended use, and effect.
- L. Standard Products: Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar applications.
- M. Contractor shall affix Owner property tags to all equipment required to be inventoried by Owner. Contractor shall verify requirement with Owner for each purchased equipment.

PART 3 - EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

Contractor shall:

- A. When Contract Documents require that installation of Work will comply with manufacturer's printed instructions, obtain and distribute copies of instructions to parties in installation, including two copies to the Owner, prior to commencing Work.
- B. Maintain one set of complete instructions at Project site during installation and until completion.
- C. Maintain copies for Project Record Documents.
- D. Handle, install, connect, clean, condition, and adjust products in strict accord with manufacturer's instructions and in conformity with specified requirements.

- E. Inspect substrate to receive Work and conditions under which Work is to be performed.
- F. Notify the Owner in writing for further instructions, should job conditions or specified requirements conflict with manufacturer's instructions and not proceed with Work without clear written instructions.
- G. Perform Work in accordance with manufacturer's instructions and not omit preparatory steps or installation procedures.
- H. Install Work during conditions of temperature, humidity, exposure, forecasted weather, and status of Project completion which will ensure best possible results for each item of material or equipment.
- I. Isolate non-compatible materials to prevent deterioration.
- J. Mount individual units of Work at industry recognized standard mounting heights for applications indicated and refer questionable mounting height choices to Owner for final decision.

3.02 PROTECTION

Contractor shall:

- A. Furnish protection against weather. Cover building openings to protect interior of building from weather.
- B. Maintain Work, materials, apparatus, and fixtures free from damage.
- C. Protect items having factory finish to prevent damage to finish and equipment.
- D. At end of day's Work, cover new Work likely to be damaged or otherwise protect as necessary.
- E. After installation, secure substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations.
- F. Remove protection when no longer needed and upon completion of Work, remove storage facilities from Project site.
- G. Install and maintain barricades, stanchions, or other means of protection to keep traffic off of installed product as necessary.

END OF SECTION

SECTION 01605 - PRODUCTS AND SUBSTITUTIONS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Definitions: Definitions used in this paragraph are not intended to negate the meaning of other terms used in the Contract Documents, including such terms as, "specialties", "systems", "structure", "finishes", "accessories", "furnishings", "special construction" and similar terms. Such terms are self-explanatory and have recognized meanings in the construction industry.
1. "Products" are defined to include purchased items for incorporation into the Work, regardless of whether specifically purchased for Project or taken from Contractor's stock of previously purchased products.
 2. "Named Products" are products identified by use of the Manufacturer's name for a product, including such items as a make or model designation, as recorded in published product literature, of the latest issue as of the date of the Contract Documents.
 3. "Materials" are defined as products which must be substantially cut, shaped, worked, mixed, finished, refined, or otherwise fabricated, processed, installed or applied to form units of Work.
 4. "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, etc).
- B. Substitutions: The Contractor's requests for changes in the products, materials, equipment and methods of construction required by the Contract Documents are considered requests for "substitutions" and are subject to the requirements specified herein.
1. The requirements for substitutions do not apply to specified Contractor options on products and construction methods. Revisions to Contract Documents, where requested by the Owner or Design Professional, are "changes" not "substitutions".
 2. Requested substitutions during subcontractor bidding period, which have been accepted prior to Receipt of Bids, are included in Contract Documents and are not subject to requirements for substitutions as specified herein.
 3. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities does not constitute "substitutions", and does not constitute a basis for Change Orders, except as provided for in the Contract Documents. Otherwise, Contractor's requests for changes in products, materials and methods of construction required by Contract Documents are considered requests for "substitutions" and are subject to the requirements

hereof.

C. Standards:

Refer to Specification Section 01095 - DEFINITIONS AND STANDARDS for acceptability of industry standards to products of Project and for acronyms used in text of Specification sections.

1.02 REQUIREMENTS INCLUDED

- A. Materials specified are to define standard of quality or performance and to establish basis for evaluation of selections.
- B. Size of each item of material and equipment shown on the Drawings is based on dimensions of individual manufacturers. While other manufacturers may be acceptable, it will be responsibility of the Contractor to determine whether or not material and equipment proposed will fit into available space.
- C. Compliance requirements for individual products as indicated in Contract Documents are multiple in nature and may include generic, descriptive, proprietary, performance, prescriptive, compliance with standards, compliance with codes, conformance with graphic details, and other similar forms and methods of indicating requirements, all of which must be complied with. Allowances, alternatives, and similar provisions of the Contract Documents will have bearing on selection process.
- D. Where materials or equipment are specified by trade or brand name, it is not intended to discriminate against an equivalent product of another manufacturer, except where specifically noted NO SUBSTITUTION.
- E. Contractor's options for selecting products are limited by Contract Document requirements and governing regulations and are not controlled by industry traditions or procedures experienced by Contractor on previous construction projects.
- F. Revisions to Contract Documents, where requested by Owner or Design Professional, are changes not substitutions.
- G. When specified products do not comply with requirements or are not a feasible selection, advise Owner in writing before proceeding.

1.03 QUALITY ASSURANCE

- A. Source Limitations:
 - 1. To the greatest extent possible for each unit of Work, provide products, materials, or equipment of a singular generic kind from a single source.
 - 2. When it is discovered that specified products are available only from sources that do not or cannot produce a quality adequate to complete Project requirements in a timely manner, consult with the Design Professional for a

determination of the most important product qualities before proceeding. Qualities may include attributes relating to visual appearance, strength, durability, or compatibility. When a determination has been made, select products from sources that produce products that possess these qualities to the fullest extent possible.

B. Compatibility of Options:

When the Contractor is given the option of selecting between two or more products for use on the Project, the product selected will be compatible with products previously selected, even if previously selected products were also options. Complete compatibility between the various choices available to the Contractor is not assured by the various requirements of the Contract Documents but will be provided by the Contractor.

1.04 SUBSTITUTIONS

A. Procedures:

1. During Bidding:

- a. Refer to requirements specified under Section 00100 - INSTRUCTIONS TO BIDDERS for substitutions during Bidding.

2. After Contract is Awarded:

- a. Contractor's request for substitutions will be received and considered when extensive revisions to Contract Documents are not required and changes are in keeping with general intent of Contract Documents, when timely, fully documented and properly submitted, and when one or more of the following conditions are satisfied, all as judged by the Owner. Otherwise requests will be returned without action except to record non-compliance with these requirements.

- (1) Where request is directly related to an "or equal" clause or other language of same effect in Contract Documents.
- (2) Where required product, material or method cannot be provided within Contract Time, but not as a result of Contractor's failure to pursue the Work promptly or to coordinate various activities properly.
- (3) Where required product, material or method cannot be provided in a manner which is compatible with other materials of the Work, or cannot be properly coordinated therewith, or cannot be warranted as required, or cannot be used without adversely affecting Owner's insurance coverage on completed Work, or will encounter other substantial non-compliances which are not possible to otherwise overcome except by making

requested substitution, which Contractor thereby certifies to overcome such non-compatibility, non-coordination, non-warranty, non-insurability or other non-compliance as claimed.

- (4) Where required product, material or method cannot receive required approval by a governing authority and requested substitution can be so approved.
- b. Noncomplying requests will be returned without action except to record noncompliance with requirements.
 - c. Properties of proposed substitution, including but not limited to the following, as applicable, will be considered:
 - (1) Physical dimension requirements to satisfy space limitations.
 - (2) Static and dynamic weight limitations, structural properties.
 - (3) Audible noise levels.
 - (4) Vibration generation.
 - (5) Interchangeability of parts or components.
 - (6) Accessibility for maintenance, possible removal or replacement.
 - (7) Colors, textures, and compatibility with other materials, products, assemblies, and components.
 - (8) Equipment capacities and performance characteristics.
 - (9) Electromagnetic interference.
 - d. Substitutions will not be considered if:
 - (1) They are indicated or implied on Shop Drawing, Project Data submittals, or mock-ups without formal request.
 - (2) Acceptance will require substantial revision of Contract Documents as determined by Owner.
 - (3) Additional cost to Owner is involved.
 - (4) Requests for substitutions are not submitted in a timely fashion.
 - e. Contractor will bear all costs for additional compensation to Owner's Design Professional for redesign and evaluation services, increased costs of other work by Owner or separate contractors, and other incurred costs or similar considerations due to acceptance of substitution.
 - f. Should substitution be accepted under provisions of above clauses, and substitution subsequently proves defective or otherwise unsatisfactory for service for which it was intended within warranty period, the Contractor will replace defective material with material specified at no additional cost to Owner.
 - g. Submittal of, and Contractor's acceptance of, shop drawings, product data, or samples which relate to work not complying with requirements of Contract Documents does not constitute an acceptable and valid request for substitution, nor approval thereof.

- h. If proposed substitution is not accepted or all requirements are not entirely complied with, provide specified product or material. Costs for delays will be borne by Contractor.

B. Form of Requests:

1. Submit three copies, fully identified for product or method being replaced by substitution, including related Specifications section and drawing number(s), and fully documented to show compliance with requirements for substitutions.
2. Proposed substitutions will state:
 - a. Product Data, Drawings.
 - b. Changes required in other elements of Work because of substitution.
 - c. Availability of maintenance service and source of replacement parts as applicable.
 - d. When requested, test data from independent testing laboratory to show compliance with performance characteristics specified.
 - e. Related Specifications sections and drawing numbers, fully documented to show compliance with requirements for substitutions.
 - f. Description of methods.
 - g. Samples where applicable.
 - h. Detailed comparison of significant qualities between specified item and proposed substitution.
 - i. Statement of effect on construction time and coordination with other affected work.
 - j. Statement to the effect that proposed substitution will result in Work equal to or better than Work originally indicated.
 - k. Cost information or proposal.

C. Shop Drawings, Product Data and Sample Submittals:

Contractor's submittal of (and Owner's acceptance of) Shop Drawings, mock-ups, Product Data or samples which relate to Work not complying with requirements of Contract Documents does not constitute an acceptable or valid request for a substitution, nor approval thereof.

1.05 CONTRACTOR'S REPRESENTATIONS

- A. Request for substitution constitutes representation that Contractor:
 - 1. Has investigated proposed product and determined that it is equal to or superior in all respects to that specified.
 - 2. Will furnish same warranties or bonds for substitution as for product specified.
 - 3. Will coordinate installation of accepted substitution into Work and make such other changes as may be required to make Work complete in all respects.
 - 4. Waives all claims for additional costs which may subsequently become apparent.

1.06 OWNER'S DUTIES

- A. Owner will determine acceptability of proposed substitutions.
- B. Owner will review requests for substitutions with reasonable promptness and notify Contractor, in writing, of decision to accept or reject requested substitution. Owners judgment and decision is final.
- C. Review of Owner's acceptance or failure to take exceptions to substitutions or other review documents will not relieve Contractor of its responsibility for item actually meeting performance or other requirements of Contract Documents.

1.07 SUBMITTALS

- A. Product List Schedule:
 - 1. Prepare a schedule showing products specified in a tabular form acceptable to the Owner. Include generic names of products required. Include the manufacturer's name and proprietary product names for each item listed.
 - 2. Coordinate the product listing with the Contractor's Construction Schedule and the Schedule of Submittals.
 - 3. Form:
 - a. Prepare the product listing schedule with information on each item tabulated under the following column headings:
 - (1) Related Specification heading number.
 - (2) Generic name used in Contract Documents.
 - (3) Proprietary name, model number and similar designations.
 - (4) Manufacturer's name and address.
 - (5) Supplier's name and address.

(6) Installer's name and address.

4. Initial Submittal:

Within 14 days after date of commencement of the Work, submit initial product list schedule. Provide a written explanation for omissions of data and for known variations from Contract requirements.

5. Owner's Action:

a. The Owner will respond in writing to the Contractor. The Owner's response will include the following:

(1) A list of unacceptable product selections, containing a brief explanation of reasons for this action.

(2) A request for additional data necessary for the review and possible acceptance of the products and manufacturers listed.

PART 2 - PRODUCTS

2.01 GENERAL PRODUCT REQUIREMENTS

A. General:

1. Provide products which comply with requirements, which are undamaged and unused at time of installation, and which are complete with accessories, trim, finish, safety guards, and other devices and details needed for complete installation and for intended use and effect.
2. Compliance with codes, graphic details, allowances, and similar provisions of the Contract Documents also have a bearing on the selection process.
3. Refer to Section 01600 - MATERIALS AND EQUIPMENT.

B. Standard Products:

Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar applications.

C. Continued Availability:

Where additional amounts of a product, by nature of its application, are likely to be needed by Owner at a later date for maintenance and repair or replacement work, provide a standard, domestically produced product which is likely to be available to Owner at such later date.

2.02 PRODUCT SELECTION LIMITATIONS

A. Product Selection Procedures: Contractor's options in product selection are governed by the Contract Documents and governing regulations, not by previous industry tradition or project experience. Procedures governing product selection include, but are not limited to, the following:

1. Proprietary Specification Requirements:

- a. Where a single product or manufacturer is named, provide the product indicated. Other products may be considered by the Owner in compliance with provisions concerning substitutions. Where the term NO SUBSTITUTION is indicated, provide only product indicated.
- b. Advise the Owner before proceeding when it is discovered that the named product is not a feasible solution.

2. Semi-proprietary Specification Requirements:

- a. Where two or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted, unless the Specifications indicate possible consideration of other products.
- b. Acceptable Manufacturers: When products are specified by one or more manufacturers' model or performance criteria with reference to other acceptable manufacturers, products manufactured by acceptable manufacturers listed must meet minimum performance criteria specified or meet quality of models specified.
- c. Advise the Owner before proceeding when it is discovered that the named product is not a feasible solution.
- d. Where products or manufacturers are specified by name accompanied by the term "or equal" or "or approved equal," comply with Item 1.04 SUBSTITUTIONS of this Section for procedural requirements governing substitutions to obtain approval for use of an unnamed product.

3. Non-Proprietary Specifications:

When the Contract Documents list products or manufacturers that are available and may be incorporated in the Work but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract Document requirements. Comply with Item 1.04 SUBSTITUTIONS of this Section for procedural requirements to obtain approval for use of an unnamed product.

4. Descriptive Specification Requirements:

Where Contract Documents describe a product or assembly listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides those characteristics and otherwise

complies with the Contract Documents.

5. Prescriptive Requirements:

Provide products which have been produced in accordance with prescriptive requirements, using specified ingredients and components and complying with specified requirements for mixing, fabricating, curing, finishing, testing, and similar operations in manufacturing process.

6. Performance Specification Requirements:

a. Where Contract Documents require compliance with performance requirements, provide products that comply with these requirements and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.

b. Manufacturer's recommendations may be contained in published product literature or by the manufacturer's certification of performance.

7. Compliance with Standards, Codes and Regulations:

Where the Contract Documents only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.

8. Visual Matching:

a. Where Contract Documents require matching an established sample, the Owner's decision will be final on whether a proposed product matches satisfactorily.

b. Where no product available within the specified category matches satisfactorily and also complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another category, or for noncompliance with specified requirements.

9. Visual Selection:

a. Where specified product requirements include the phrase ".....as selected from manufacturer's standard colors, patterns, textures..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Owner will select the color, pattern and texture from the product line selected.

b. Where specified product requirements include ".as selected from standard colors, patterns, textures available within the industry..", or words to that effect, selection of product complying with requirements

and within established cost category is Owner's and Design Professional's selection, including designation of manufacturer where necessary to obtain desired color, pattern, or texture.

10. Compatibility of Products:

- a. Where more than one choice is available as an option for Contractor's selection of product or material, select the option which is compatible with other products and materials already selected which may have been from among options for other products and materials.
- b. Total compatibility among options is not assured by limitations within Contract Documents, but must be provided by Contractor.
- c. Compatibility is basic general requirement of product and material selections.

2.03 NAMEPLATES

- A. Except as otherwise indicated for required approval labels and operating data, do not permanently attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view either in occupied spaces or on exterior of the Work.
 1. Labels: Locate required labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface which, in occupied spaces, is not conspicuous.
 2. Equipment Nameplates: Provide permanent nameplate on each item of service-connected or power-operated equipment. Locate nameplates on an easily accessed surface which, in occupied spaces, is not conspicuous. The nameplate will contain the following information and other essential operating data:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.

PART 3 - EXECUTION

3.01 INSTALLATION OF PRODUCTS

- A. Except as otherwise indicated in individual sections of the Contract Documents, comply with manufacturer's instructions and recommendations for installation of products in

the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.

- B. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion of the whole Work.

END OF SECTION

SECTION 01640 - PRODUCT HANDLING

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope:

Contractor shall protect products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.

B. Related Work:

Additional procedures also may be prescribed in other Sections of these Contract Documents.

See Section 014000 – Quality Control, 1.14 Material Receipt and Storage Inspections.

1.02 QUALITY ASSURANCE

Contractor shall:

A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of Work and materials and:

B. Submit a material receipt, offloading, and storage plan to the Owner for approval that addresses the following at a minimum:

1. Delivery, handling, and storage of products in accordance with manufacturer's recommendations and by methods and means which will prevent damage, deterioration, and loss, including theft.
2. Control delivery schedules to minimize long-term storage of products at Project site and overcrowding of construction spaces.
3. In particular, provide delivery/installation coordination to ensure minimum holding or storage times for products recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other sources of loss.
4. Delivery of products to the Project site in the manufacturer's sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
5. Inspection of products upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected. Submission of a material receipt inspection report including checklists, pictures, etc. along with the daily production report.
6. Storage of products at the Project site in a manner that will facilitate inspection and measurement of quantity or counting of units.

7. Storage of heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
 8. Store products subject to damage by the elements above ground, under cover in a weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.
 9. Compliance with laws and regulations regarding storage of material and equipment such as quantity restrictions, stacking, compatibility with adjacent material, fire protection, containment, etc.
 10. Provision of drawings indicating delivery routes, off-loading and lay-down areas, and storage areas.
- C. Revise and resubmit the material receipt, offloading, and storage plan to the Owner for approval as onsite conditions change and/or project phasing progresses.

1.03 MANUFACTURER'S RECOMMENDATIONS

Except as otherwise approved by the Owner, Contractor shall determine and comply with manufacturer's recommendations on product handling, storage, and protection.

1.04 PACKAGING

- A. Contractor shall deliver products to the Project site in their manufacturer's original containers, with labels intact and legible.

Contractor shall:

1. Maintain packaged materials with seals unbroken and labels intact until time of use.
2. At the time of delivery, inspect and remove damaged material and unsuitable items from the Project site, and promptly replace with material(s) meeting the specified requirements, at no additional cost to the Owner.

- B. The Owner may reject as non-complying such material and products that do not bear identification satisfactory to the Owner as to manufacturer, grade, quality, and other pertinent information.

1.05 PROTECTION

Contractor shall:

- A. Protect finished surfaces, including jambs and soffits of openings used as passageways, through which equipment and materials are handled.
- B. Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.

- C. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the Owner.
- D. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
- E. Restore storage areas to their previous condition regarding cleanliness. Remove all trash, debris, and clean up any spills.

1.06 REPAIRS AND REPLACEMENTS

Contractor shall:

- A. In event of damage, promptly make replacements and repairs to the approval of the Owner and at no additional cost to the Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by the Owner to justify an extension in the Contract Time.

1.07 REMOVAL OF NON-COMPLIANT MATERIAL AND EQUIPMENT

- A. Material or equipment that is determined to be non-compliant with contract requirements shall not be off-loaded or stored onsite. The Contractor shall make prompt arrangements to have the material or equipment removed from the site. In the event the Contractor cannot or refuses to remove the material or equipment, the Owner reserves the right to have the non-compliant material or equipment removed from the site and stored at an appropriate location at the Contractor's expense.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

SECTION 01650 – CONSTRUCTION SALVAGE AND WASTE MANAGEMENT

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes demolition and construction salvage and construction waste management requirements. This section does not include hazardous materials removed. Refer to other sections, as applicable, for hazardous materials removed.

1.02 DEFINITIONS

- A. Alternative Daily Cover (ADC): Material, other than earthen material, placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odors, blowing litter and scavenging.
- B. Co-mingled or Off-site Separation: Collecting all material types into a single bin or mixed collection System and separating the waste materials into recyclable material types at an off-site facility.
- C. Construction and Demolition Waste (CDW): Includes all nonhazardous solid wastes resulting from construction, remodeling, alterations, repair, and demolition. This includes material that is recycled, reused, salvaged or disposed as garbage.
- D. Diversion Rate: $(\text{Total Waste Diverted from Landfill} / \text{Total Waste produced by project}) \times 100$.
- E. Garbage: Product or material typically considered to be trash or debris that is unable to be salvaged for resale, salvaged and reused, returned, or recycled.
- F. Hazardous Materials/Hazardous Substance: Any substance that (i) the presence of which requires investigation, reporting, removal or remediation under any Environmental Law; (ii) that is or becomes defined as a "hazardous waste," "hazardous substance," "hazardous material," "extremely hazardous substance," or other type of pollutant or contaminant under any applicable Environmental Law; (iii) that is toxic, reactive, explosive, corrosive, flammable, radioactive, carcinogenic, mutagenic, teratogenic, or otherwise hazardous and is or becomes regulated by any applicable Environmental Law; (iv) that is or contains oil, gasoline, diesel fuel, aviation fuel, or other petroleum hydrocarbons, products or derivatives, other than petroleum, crude oil, and petroleum products to the extent contained within regularly operated motor vehicles; (v) that is or contains PCBs, asbestos, radon, urea formaldehyde or any substance that contains per- and polyfluoroalkyl substances (PFAS); (vi) that is fungi or bacterial matter which reproduces through the release of spores or the splitting of cells, including but

not limited to, mold (including, without limitation, penicillium/aspergillus and stachybotrys chartarum), and Legionella (legionella pneumophila); or (vii) the presence of which causes or threatens to cause a nuisance upon the Property or to adjacent property or poses or threatens to pose a hazard to the health or safety of any person, to plant or animal life, or to the environment, including, but not limited to sewage sludge, industrial slag, solvents and/or any other similar substances or materials.

Notwithstanding the foregoing, "Hazardous Substances" shall not include (i) "de minimis" quantities of such materials; (ii) substances customarily present in the ordinary course of business of ownership, operation and maintenance of a residential and commercial mixed-use property in a prudent manner, but only during the period that the same are stored in reasonable and customary quantities and stored and/or used in accordance with applicable Environmental Laws; or (iii) any quantities of such materials which are permitted to remain in the environment, including soil, sediments, groundwater, or other environmental media pursuant to principles of risk-based corrective action under applicable Environmental Laws.

- G. Land Clearing Debris (LCD): Materials that are natural (e.g., rock, soil, stone, vegetation). This also includes uncontaminated soils that are designated as geotechnically unsuitable or excess excavation.
- H. Proper Disposal: Disposal pursuant to all laws, rules, regulations and codes of the law.
- I. Recyclable Materials: Products and materials that can be recovered and remanufactured into new products.
- J. Recycling: The process of sorting, cleaning, treating and reconstituting materials for the purpose of using the material in the manufacture of a new product. This may be conducted on-site (e.g., as in the grinding of concrete).
- K. Recycling Facility: An operation that is permitted to accept materials for the purpose of processing the materials into an altered form for the manufacture of a new product.
- L. Salvage for Reuse: Existing usable product or material that can be saved and reused in some manner on the project site or other projects off-site.
- M. Salvage for Resale: Existing usable product or material that can be saved and removed intact (as is) from the project site to another site for resale to others without remanufacturing.
- N. Solid Waste including Universal Waste: Any waste that is or becomes defined as a "solid waste", "waste", "special waste", "garbage", or "commercial solid waste" under any environmental law or any waste that can require special handling and

management, including but not limited to, white goods, waste tires, used oil, lead-acid batteries, construction and demolition debris, ash residue, yard trash, biological wastes, pesticides, pharmaceuticals and mercury-containing devices and lamps; or any waste that is not hazardous waste and that is not prohibited from disposal in a lined landfill or yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass, plastic, or furniture other than appliances.

- O. Source Reduction: Eliminating project waste through reduced packaging, prefabrication, modular construction, or incorporating standard material lengths or sizes into construction documents.
- P. Source-Separated Materials: Materials that are sorted at the site into separate containers for the purpose of reuse or recycling.
- Q. Sources Separation: Sorting the recovered materials into specific material types with no, or a minimum amount of, cross-contamination on site.
- R. Time-Based Separation: Collecting waste during each phase of construction or deconstruction that results in primarily one major type of recovered material. The material is removed before it becomes mixed with the material from the next phase of construction.
- S. Waste Diversion: A management activity that disposes of waste through methods other than incineration or landfilling. Examples include reuse and recycling.
- T. Waste-to-Energy: The conversion of non-recyclable waste materials into usable heat, electricity, or fuel through a variety of processes, including combustion, anaerobic digestion, and landfill gas (LFG) recovery.

1.03 SUBMITTALS

- A. Construction Waste Management Plan
- B. Contractor Staging Area Site Plan
- C. Construction Waste Management Monthly Report
- D. Construction Waste Management Final Report

1.04 PERFORMANCE GOALS

- A. General: Divert CDW and LCD from landfill disposal by one or more combination of the following activities:
 - 1. Salvage
 - 2. Reuse or refurbishment

3. Source separated recycling
 4. Co-mingled recycling
 5. Donation to approved non-profit organization
 6. Resale in accordance with Authority Standard Procedure S440.05 Transfer/Disposal of Equipment/Construction Salvage
 7. Incineration in approved waste-to-energy facility
- B. CDW materials that can be salvaged, resold, reused or recycled, include, but are not limited to the following:
1. Clean dimensional wood, pallet wood, plywood, Oriented Strand Board (OSB), and particleboard
 2. Asphalt
 3. Concrete and concrete masonry units
 4. Brick
 5. Ferrous and non-ferrous metals
 6. Gypsum products
 7. Acoustical ceiling tile
 8. Glass, both window and bottle
 9. Plastics, including plastic film
 10. Carpet and pad
 11. Cardboard packaging
 12. Insulation
 13. Field office waste paper, aluminum cans, glass, plastic, and cardboard
 14. Non-hazardous solid waste or universal waste

1.05 CONSTRUCTION WASTE MANAGEMENT PLAN

- A. Unless specifically waived by the Owner in writing, the Contractor shall include a Construction Waste Management Plan as outlined in this section.
- B. Submit to the Owner a Construction Waste Management (CWM) Plan narrative in accordance with these specifications.
- C. The Construction Waste Management Plan shall include the following:
1. Name of designated Waste Management Coordinator.
 2. The plan must account for all materials, including land-clearing debris, materials to be used for alternative daily cover (ADC), and other materials not contributing to diversion but not included in the diverted waste total.
 3. A list of [Note to Designer: Insert # of applicable waste streams to project scope here, typically no greater than five (5)] demolition or construction waste materials that will be diverted from landfill disposal. Materials may be structural or non-structural.
 4. Include approximate percentage of overall project waste each materials represents.
 5. Separately track CDW, LCD, landfill disposal, and recycled materials.

6. Identify materials as demolition or construction waste.
7. Include reference to separate hazardous materials removal, tracking and disposal procedures in accordance with other sections, as applicable.
8. Identify waste handling methods to be used, including one or more of the following:
 - a. Method 1 - Contractor or subcontractor(s) hauls recyclable materials to an approved recycling facility.
 - b. Method 2 - Contracting with diversion/recycling hauler to haul recyclable material to an approved recycling or material recovery facility.
 - c. Method 3 - Recyclable material reuse on-site.
 - d. Method 4 - Recyclable material salvage for resale.
9. Identification of each recycling or material recovery facility to be utilized, including name, address, types of materials being recycled at each facility and/or how the materials will be disposed or reused onsite.
10. Description of the method to be employed in collecting, and handling, waste materials.
11. Description of methods to communicate Construction Waste Management Plan to personnel and subcontractors.

1.06 CONTRACTOR STAGING AREA SITE PLAN

- A. Submit a Contractor Staging Area Site Plan to achieve salvage and waste management goals prior to the start of construction.
 1. Identify designated areas in coordination with the Owner for stockpiling recyclable materials, including non-contaminated soils for re-use on site, including but not limited to infrastructure elevation changes, development of noise berms and consideration for landscape needs.
 2. Designate on-airport contractor haul routes in coordination with the Owner, focusing on safety and minimizing on-airport travel distances.

1.07 CONSTRUCTION WASTE MANAGEMENT MONTHLY REPORTS

- A. Submit a monthly construction waste management status report.
 1. Include items-to-date as noted in 1.08 CONSTRUCTION WASTE MANAGEMENT FINAL REPORT.

1.08 CONSTRUCTION WASTE MANAGEMENT FINAL REPORT

- A. Submit a Construction Waste Management Final Report. The report shall list the following for the project:
 1. A record of each waste material type and quantity recycled, reused,

- 2. Include total quantity of waste material removed from the site and hauled to a landfill.
 - 3. Percentage of total waste material generated that was recycled, reused, or salvaged.
 - 4. Documentation of recycling rates for commingled facilities if applicable.
 - 5. Total waste per gross floor area of project if applicable.
- B. Quantities shall be reported by weight (tons) unless otherwise approved by the Owner.
- C. Submit copies of manifests, weight tickets, recycling/disposal receipts or invoices, which validate the calculations or a signed certification of completeness and accuracy of the final quantities reported.
- D. Submit a construction and demolition waste calculator or equivalent tool, tracking total and diverted waste streams.
- E. The final reporting of hazardous materials removal will be in accordance with other sections and will not be included in the project's tracking total.

1.09 QUALITY ASSURANCE

- A. Regulatory Requirements: The Contractor shall maintain compliance with all applicable Federal, State, or Local laws.
- B. Disposal Sites, Recyclers and Waste Materials Processors: All facilities utilized for management of any materials covered under this specification must maintain all necessary permits as required by federal, state and local jurisdictions.

PART 2 – PRODUCTS - Not used.

PART 3 – EXECUTION

3.01 SOURCE-SEPARATED CDW AND LCD RECYCLING

- A. Provide individual containers for separate types of CDW and LCD to be recycled clearly labeled with a list of acceptable and unacceptable materials.

3.02 CO-MINGLED CDW AND LCD RECYCLING

- A. Provide containers for co-mingled CDW and LCD to be recycled, clearly labeled with a list of acceptable and unacceptable materials.

3.03 LANDFILL

- A. Provide containers for CDW and LCD that are to be disposed of in a landfill clearly

labeled as such.

3.04 REMOVAL OF CDW and LCD FROM PROJECT SITE

- A. Transport CDW and LCD off Owner's property and legally dispose of it.

PART 4 – MEASUREMENT AND PAYMENT

4.01 GENERAL

- A. No separate measurement or payment will be made for the work required by this section. The cost for this portion of the Work will be considered incidental to and included in the payments made for the applicable project amount or bid item(s).

END OF SECTION

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 DESCRIPTION

Closeout is hereby defined as the performance of activities and the preparation and submittal of documents following Substantial Completion as specified in the Contract Documents as necessary to Final Acceptance and Contract closure. Specific requirements for individual units of Work are specified in other Sections. Should phased Substantial Completion be requested by the Owner, the Contractor and Owner will establish the extent of the area and scope that reached Substantial Completion. For each phased Substantial Completion area, the Contractor shall comply with this section.

1.02 PREREQUISITES TO SUBSTANTIAL COMPLETION

- A. Prior to requesting Owner's and Design Professional inspection for Certificate of Substantial Completion, for either the whole Work or designated portions thereof, complete the following and list known exceptions in request:
1. In progress payment request, coinciding with, or first following date claimed, show 100% completion for portion of Work claimed as substantially completed, or list incomplete items, value of incompleteness, and reasons for being incomplete.
 2. Include supporting documentation for completion as indicated in the Contract Documents.
 3. Submit statement showing accounting of changes to the Contract sum.
 4. Advise Owner of pending insurance change-over requirements.
 5. Obtain and submit releases enabling Owner's full and unrestricted use of the Work and access to services and utilities, including, where required, occupancy permits, operating certificates, and similar releases.
 6. Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner.
 7. Make final change-over of locks and transmit keys to Owner, and advise Owner's personnel of change-over in security provisions.
 8. Complete start-up testing of systems and instructions of Owner's operating-maintenance personnel. Discontinue, or change over, and remove from Project site temporary facilities and services, along with construction tools and facilities, mock-ups, and similar elements.

In Owner's sole discretion, it may waive the above requirements in writing and provide a deadline after Substantial Completion, but before final completion for compliance.

B. Cleaning and Repairs:

Immediately prior to the Owner's and Design Professional's inspection for Substantial Completion of the whole Work or designated portions thereof, the Contractor will completely clean the premises. Concrete and ceramic surfaces will be cleaned and washed. Resilient coverings will be cleaned, waxed and buffed. Woodwork will be dusted and cleaned. Sash, fixtures, and equipment will be thoroughly cleaned. Stains, spots, dust, marks, and smears will be removed from all surfaces. Hardware and all metal surfaces will be cleaned and polished. Glass and plastic surfaces will be thoroughly cleaned by professional window cleaners. All damaged, broken or scratched glass or plastic will be replaced by the Contractor at the Contractor's expense. Refer to Section 01561 - CONSTRUCTION CLEANING. In the event the Contractor does not strictly comply with these cleaning requirements, Owner may have the Work cleaned and backcharge the Contractor.

C. Inspection Procedures:

1. Incomplete Items Prior to Substantial Completion:

- a. One week prior to anticipated date of Substantial Completion, the Contractor will furnish the Owner a list of items which Contractor expects will be incomplete at date of Substantial Completion.
- b. The Owner will review the list and confirm its acceptability, or itemize objections and transmit such to the Contractor for action. Approval of this list by Owner will be a precondition for conducting the Substantial Completion inspection.

2. Upon receipt of Contractor's request for inspection, the Owner will either proceed with inspection or advise Contractor of prerequisites that are not fulfilled. Following initial inspection, the Owner will either prepare the Certificate of Substantial Completion or advise Contractor of work which must be performed prior to issuance of certificate. The Owner will repeat inspection when requested and when assured that the work has been substantially completed. A listing of work to be completed or corrected and the submission of closeout documents specified in Paragraph 1.03.A.1 will constitute the Final Acceptance punch list.

- a. For projects under \$10 million, the Final Acceptance punch list will be developed within 30 days after Substantial Completion and will be provided to the Contractor within five days after its completion.
- b. For projects over \$10 million, the Final Acceptance punch list will be

developed within 60 days after Substantial Completion and will be provided to the Contractor within five days after its completion.

3. Following Substantial Completion, the Contractor will correct or complete all Final Acceptance punch list items, excluding closeout documents, to the satisfaction of the Owner within 30 days after delivering the Final Acceptance punch list for projects under \$10 million and 60 days for projects above \$10 million. If subsequent inspections are necessary after the prescribed time in order to eliminate all deficiencies, the cost of all subsequent inspections with respect to Owner's time will be paid by the Contractor. When ready, the Contractor will request in writing a final inspection of the Work. Upon completion of re-inspection, the Owner will either prepare a Certificate of Final Acceptance or advise Contractor of Work that is not completed or obligations that are not fulfilled as required for Final Acceptance. If necessary, procedures will be repeated. In the event of unacceptable Work discovered on the final inspection or if the submission of the closeout document is incomplete, the issuance of the Certificate of Final Acceptance will be withheld until all Final Acceptance punch list items and closeout documents are corrected or submitted to the Owner's satisfaction.

1.03 PREREQUISITES FOR FINAL COMPLETION AND ACCEPTANCE

- A. Prior to requesting Owner's final inspection for Certification of Final Acceptance as required by this Part 2 Contract, complete the following and list known exceptions in requests:
 1. Submit certified copy of Final Acceptance punch list with a statement that each item has been completed, submitted or otherwise resolved for acceptance, and has been endorsed and dated by Owner. The Final Acceptance punch list will contain the requirement that the following named items will be submitted as closeout documents on Owner or statutory forms:
 - a. Consent of Surety to Payment
 - b. Contractor's Final Affidavit of Payment of Debts and Claims
 - c. Contractor's Affidavit of Releases of Lien waivers
 - d. Waiver of Right to Claim Against Payment Bond upon Final Payment
 - e. List of Contractor's first tier and second tier subcontractors and suppliers, including addresses, phone numbers and a summary of the scope of work.
 - f. Final release of lien from each subcontractor and supplier listed in d. above
 - g. Statement of compliance with labor standards and payment of all applicable taxes
 - h. Statement of Contractor's one-year general warranty
 - i. Specific warranties as specified in Contract Documents and include the subcontractor or supplier with its contact information when applicable.
 - j. Accounting of final Contract amount

- k. Accounting of actual DBE (W/MBE) participation
 - l. As-Built drawings sufficient for the production of record drawings
 - m. O&M manuals, Record Project Manual and record documents (see paragraph 1.06)
 - n. Evidence of continuing insurance complying with specified requirements
 - o. Contractor's final pay application
 - p. Final amendment – when applicable
2. Submit final meter readings for utilities, measured record of stored fuel, and similar data either as of time of Substantial Completion or when Owner took possession of and responsibility for corresponding elements of the Work.
 3. Complete final cleaning requirements, including touch-up of marred surfaces. Refer to Section 01561 - CONSTRUCTION CLEANING, Paragraph 3.03 FINAL CLEANING.
 4. Touch-up and otherwise repair and restore marred exposed finishes.

1.04 PREREQUISITES TO FINAL PAYMENT

A. Final Payment: Final Payment will be made after Final Acceptance of the whole Work by the Owner upon request by the Contractor and on condition that the Contractor:

1. Acceptance and final payment: The Owner will check the final estimate submitted by the Contractor of the items of Work actually performed. The Contractor will approve the Owner's final estimate or advise the Owner of Contractor's objections to the final estimate which are based on disputes in measurements or computations of the final quantities.

The Contractor and the Owner will resolve all disputes in the measurement and computation of final quantities to be paid within 30 days of the Contractor's submission of the final estimates. If, after such 30 day period, a dispute still exists, the Contractor may approve the Owner's estimate under protest of the portions of Work in dispute, and such disputed quantities will be considered by the Owner as a claim in accordance with the Contract Documents.

- a. After the Contractor has approved, or approved under protest, the Owner's final estimate, final payment will be processed based on the entire sum, or the undisputed sum in case of approval under protest, determined to be due the Contractor less all previous payments and all amounts to be deducted under the provisions of the Contract. All prior progress payments will be subject to correction in the final estimate and payment.
- b. If the Contractor has filed a claim for additional compensation under the provisions of the Contract, such claims will be considered by the Owner. Upon final resolution of such claims, any additional payment

determined to be due the Contractor, if any, will be paid.

1.05 COMPLIANCES

- A. Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at Project site, bury debris or excess materials on Owner's property, or discharge volatile or other harmful or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of in a lawful manner.
- B. Where extra materials of value remain after Work has been completed and become Owner's property, they will be relocated and stored as directed by Owner.

1.06 RECORD DOCUMENT SUBMITTALS

- A. Specific requirements for record documents are shown in this Section. Other requirements are indicated in the General Conditions. General submittal requirements are indicated in submittals sections. Contractor should not use record documents for construction purposes, should protect record documents from deterioration and loss in a secure, fire-resistant location and should provide access to record documents for Owner's reference during normal working hours.
 - 1. Definition: Record documents are defined to include those documents relating directly to performance of the Work which Contractor is required to prepare or maintain for Owner's records and which record the Work as actually performed. In particular, record documents show changes in the Work in relation to way in which shown and specified by original Contract Documents and show additional information of value to Owner's records but not indicated by original Contract Documents. Record documents include newly-prepared drawings (if any are specified), marked-up copies of Contract Documents, specifications, addenda and change orders, field records for variable and concealed conditions such as excavations and foundations, and miscellaneous record information on Work which is otherwise recorded only schematically or not at all.
 - 2. Record Drawings: Upon receipt of acceptable as-built drawings, Designer of Record will produce the official record drawings in the manner prescribed by the Contract Documents. The Contractor will submit the as-built drawings to the Owner for coordination. Record Drawings shall be sent electronically through the Owner's Management Software.
 - 3. Record Project Manual: Upon completion of mark-up, submit to Owner for Owner's records. Record Project Manual shall be sent electronically through the Owner's Management Software.
 - 4. Maintenance Manuals: Contractor will complete, place in order, properly identify and submit to Owner for Owner's records. Maintenance Manuals shall be sent electronically through the Owner's Management Software (close-out module) prior to required training and before substantial completion when

applicable.

5. Miscellaneous Record Submittals: As defined in F, 1, a-g of this Section: Provide Reports from Owner's Management Software for each of the areas of Miscellaneous Records with Bookmarks for each section. Complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Owner for Owner's records through the Owner's Management Software Close-out Module after Substantial Completion.

B. Contractor's as-built drawings:

1. As-built drawings: The Contractor will maintain one conformed set of as-built drawings at the Project site. These will be kept legible and current and will be available for inspection at all times by the Owner. Changes or work added on these drawings will be shown in a contrasting color. Should as-built drawings be maintained electronically, the Owner shall have access to them at all times.
 - a. Mark-up Procedure: During progress of the Work, maintain a white-set (blue-line or black-line) of contract drawings and shop drawings, with mark-up of actual installations which vary substantially from the Work as originally shown. Mark fully and accurately whatever drawing is most capable of showing actual physical condition. Where shop drawings are marked-up, mark cross-reference on contract drawings at corresponding location. Mark with erasable colored pencil, using separate colors where feasible, or editable in electronic format, to distinguish between changes for different categories of Work at same general location. Mark-up important additional information which was either shown schematically or omitted from original drawings. Give particular attention to information on Work concealed which would be difficult to identify or measure and record at a later date. Note alternate numbers, change order numbers and similar identification. Require each person preparing mark-up to initial and date mark-up and indicate name of firm. Label each sheet "AS-BUILT" in 1/2 inch high letters. Contractor will provide in BIM format if BIM specification submittals are required
 - b. Show actual position of all underground and otherwise concealed civil, mechanical and electrical lines, conduit, pipes, ducts, etc. Items in areas with accessible ceilings or other ready access will not be considered as being concealed.
 - c. In showing changes in the Work, use the same legends as used on the original drawings. Indicate exact locations by dimensions and exact elevations by job datum. Give dimensions from a permanent point.
 - d. When manholes, boxes, underground conduits, plumbing hot or chilled water lines, inverts, etc., are involved as part of the Work, the

Contractor will furnish true elevations and locations, all properly referenced by using the original bench mark used for this Project.

- e. The Contractor will submit completed as-built drawings to the Owner for coordination. The Contractor will transmit original ½ size hard copy to the Owner and the Contractor will submit a consolidated electronic copy via Owner's Management Software and organized by design packages inclusive of all ASIs/ESIs.
- f. As-built drawings will contain the names, addresses and phone numbers of the Contractor and the major subcontractors.
- g. As-built drawings will be reviewed monthly for compliance and acceptability.
- h. The Owner will be the sole judge of the acceptability of the as-built drawings. Receipt and acceptance of the as-built drawings is a pre-requisite for Final Payment.

C. Record Project Manual:

- 1. During progress of the work, maintain one copy of the record project manual, including addenda, change orders and similar modifications issued in printed form during construction. Mark-up variations in actual Work in comparison with text of specification and modification as issued. Give particular attention to substitutions, selection of options, and similar information on Work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record drawing information and product data, where applicable.
- 2. Where record project manual is printed on one side of page only, mark variation on blank left-hand pages of record project manual, facing printed right-hand pages containing original text affected by variation.
- 3. Upon completion of the Work, the document information maintained during construction such as addenda, alternates, construction change directives, change orders, work orders, etc. will be recorded as follows:
 - a. Neatly cross out the non-conforming portion of the record project manual and add by writing in the revised portion of the record project manual. Do not revise the record project manual by cutting and pasting the actual addenda, alternates, construction change directive, change orders, work orders, etc., as actually issued by the Owner. The revisions have to be actually written by the Contractor.
 - b. The volume(s) of record project manual will be clearly marked "PROJECT RECORD" in 1/2 inch high letters and bear the name of the Contractor

and where applicable, the name of the subcontractor.

- c. The Contractor will review the completed record project manual and ascertain that all data furnished in the record project manual is accurate and truly represents the Work as actually installed.
 - d. Any deviations from the method of executing the record project manual as described above will be considered just cause for disapproval by the Owner and the Design-Builder will be required to conform and resubmit.
 - e. Submit the record project manual to the Owner for compliance review and approval through the Owner's Management Software Close-out Module
 - f. Upon Owner's approval, the Contractor will submit the completed record project manual to the Owner through the Owner's Management Software Close-out Module
4. Information maintained during construction such as addenda, alternates, construction change directives, change orders, work orders, etc. will also be electronically recorded in original word processed documents converted to PDF format prior to submittal using strike-throughs for deletions, bold and italic for revisions and additions, and/or other acceptable method(s) where feasible to distinguish between changes. All of this information is to be submitted through the Owner's Management Software in individual records for each document.

D. Record Product Data:

During progress of the Work, maintain electronic copies of each product data submittal and mark-up significant variations in the actual Work in comparison with submitted information. Include both variations in product as delivered to Project site and variations from manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned at a later date by direct observation. Note related change orders and mark-up of record drawings and specifications. Product Data should be submitted through the Owner's Management Software Close-out Module by Specification Division with each Specification Subdivision requirement bookmarked. Submit prior to Final Completion.

E. Record Sample Submittal:

After Substantial Completion, and prior to Final Completion, Owner's personnel will meet with Contractor at Project site and will determine if any of submitted samples maintained by Contractor during progress of the Work are to be transmitted to Owner for record purposes. Comply with Owner's instruction for packaging, identification marking, and delivery to Owner's sample storage space. Dispose of other samples in manner specified

for disposal of surplus and waste materials, unless otherwise indicated by Owner.

F. Miscellaneous Record Submittals:

1. Refer to other Sections of these Contract Documents for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to date(s) of Substantial Completion, complete miscellaneous records should be properly entered in to the Owner's Management Software in the appropriate modules for the types of records, and ready for continued use and reference. For Close-Out submission, provide reports as described in section 1.06.A.5 above. Categories of requirements resulting in miscellaneous work records are recognized to include, but, the following:
 - a. Required field records on excavations, foundations underground construction, wells and similar Work.
 - b. Accurate survey showing locations and elevations of underground lines, including invert elevations of drainage piping, valves, tanks and manholes.
 - c. Surveys establishing lines and levels of building.
 - d. Soil treatment certification.
 - e. Inspection and Test Reports, where not processed as shop drawings or product data.
 - f. Concrete mix design record.
 - g. Concrete Block Certification.

G. Digital Electronic Format:

1. The Contractor will submit Record Documents, after review and approval by the Owner, in digital electronic format as follows:
 - a. All textual data will be provided in PDF with Optical Character Recognition (OCR) and a report quality of 300 dpi or higher format. All formatting and tabular data will be preserved. Tabular data will be embedded in the document in Excel for Windows format.
 - b. All Drawings will be provided in AutoCAD 2000 (or higher) format, as well as a PDF document of each drawing.
 - c. After the documents are in correct digital electronic format, they will be submitted to the Owner on a solid state hard drive containing all

documents in an organized document library.

1.07 GUARANTEES AND WARRANTIES

- A. After Substantial Completion and prior to Final Acceptance, all guarantees and warranties, as specified under various sections of the Contract Documents, will be obtained by the Contractor, addressed to and in favor of the Owner.
- B. Delivery of said guarantees and/or warranties will not relieve the Contractor from any obligations assumed under any other provision of the Contract.
- C. If, within any guarantee and/or warranty period, repairs or changes are required in connection with the guaranteed and/or warranted work, which in the opinion of the Owner is rendered necessary as the result of the use of materials, equipment or workmanship which are defective, inferior or not in accordance with the terms of the Contract, the Contractor will, upon receipt of notice from the Owner, and without expense to the Owner, proceed within seven calendar days to:
 - 1. Place all guaranteed and/or warranted work in satisfactory conditions correct all defects therein, and make good all damages to the structure or site.
 - 2. Make good all work or materials, or the equipment and contents of structures or site, disturbed in fulfilling any such guarantee and/or warranty.
- D. If the Contractor, after notice, fails to comply with the terms of the guarantee and/or warranty, the Owner may have the defects corrected and the Contractor and Contractor's surety will be liable for all expenses incurred, including Owner's fees.
- E. All Guarantees and Warranties will be submitted to the Owner through the Owner's Management Software Close-Out Module and via original hard copy, giving a summary of the guarantees and warranties attached and stating the following with respect to each:
 - 1. Description of work included
 - 2. Name of subcontractors
 - 3. Period of guarantee/warranty
 - 4. Conditions of guarantee/warranty

1.08 OPERATING INSTRUCTIONS AND MAINTENANCE MANUALS

- A. Prior to any required training, and prior to Final Acceptance, complete operating instructions and maintenance manuals will be obtained by the Contractor for each piece of equipment or system furnished under the Contract. Organize operating and maintenance data into suitable sets of manageable size. Each manual will be uploaded to the Owner's Management Software Close-out Module in a separate record and the

documents will be properly bookmarked for ease of use.

1. In addition to the electronic version submitted through Owner's Management Software , the Contractor will submit one copy of each completed manual on equipment and systems, in final form, to the Owner for review and distribution. There should be an individual manual that is organized and indexed for each unit of equipment, each operating system, and each electric and electronic system.
2. Refer to Specification Sections for individual requirements on operating and maintenance of the various pieces of equipment and operating systems.

B. Equipment and Systems:

1. Provide the following information for each piece of equipment, each building operating system, and each electric or electronic system.
 - a. Description: Provide a complete description of each unit and related component parts, including the following:
 - (1) Equipment or system function.
 - (2) Operating characteristics.
 - (3) Limiting conditions.
 - (4) Performance curves.
 - (5) Engineering data and tests.
 - (6) Complete nomenclature and number of replacement parts.
 - b. Manufacturer's Information: For each manufacturer of a component part of a piece of equipment provide the following:
 - (1) Printed operating and maintenance instructions.
 - (2) Assembly drawings and diagrams required for maintenance.
 - (3) List of items recommended to be stocked as spare parts.
 - c. Maintenance Procedures: Provide information detailing essential maintenance procedures, including the following:
 - (1) Routine operations.
 - (2) Trouble-shooting guide.
 - (3) Disassembly, repair and reassembly.
 - (4) Alignment, adjusting and checking.
 - d. Operating Procedures: Provide information on equipment and system operating procedures, including the following:
 - (1) Start-up procedures.
 - (2) Equipment or system break-in.
 - (3) Routine and normal operating instructions.

- (4) Regulation and control procedures.
 - (5) Instructions on stopping.
 - (6) Shut-down and emergency instructions.
 - (7) Summer and winter operating instructions.
 - (8) Required sequences for electric or electronic systems.
 - (9) Special operating instructions.
- e. Servicing Schedule: Provide a schedule of routine servicing and lubrication requirements, including a list of required lubricants for equipment with moving parts.
 - f. Controls: Provide a description of the sequence of operation and as-installed control diagrams by the control manufacturer for systems requiring controls.
 - g. Coordination Drawings will be submitted through the BIM Model submittal requirement.
 - h. Valve Tags: Provide charts of valve tag numbers with the location and function of each valve.
 - i. Circuit Directories: For electric and electronic systems, provide complete circuit directors of panel-boards, including the following:
 - (1) Electric service.
 - (2) Controls.
 - (3) Communication.

1.09 REPLACEMENT MATERIALS

Prior to Final Acceptance, Contractor will transmit and turn over, at the Project site, in a location directed by Owner, all replacement materials which may be required by other sections of these Contract Documents.

PART 2 - PRODUCTS

"Not Used"

PART 3 - EXECUTION

3.01 EQUIPMENT OPERATIONAL DEMONSTRATIONS

- A. Prior to Substantial Completion of the whole Work or designated portions thereof, and prior to Final Acceptance, the Contractor will provide a competent and experienced person thoroughly familiar with the Work to demonstrate and instruct the Owner's personnel in operation, adjustment and maintenance of products, equipment and systems. This instruction will include normal start-up, run, stop, and emergency

operations, location and operation of all controls, alarms and alarm systems, etc. The instruction will include tracing the system in the field and on the diagrams in the instruction booklets so that the Owner's operating personnel will be thoroughly familiar with both the system and the data supplied. Provide instruction at mutually agreed upon times.

1. Use operation and maintenance manuals for each piece of equipment or system as the basis of instruction. Review contents in detail to explain all aspects of operation and maintenance.
 2. For equipment that requires seasonal operation, provide similar instruction during other seasons.
- B. If installers and/or Contractor's personnel are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:
1. Maintenance manuals.
 2. Record documents.
 3. Spare parts and materials.
 4. Tools.
 5. Lubricants.
 6. Fuels.
 7. Identification systems.
 8. Control sequences.
 9. Hazards.
 10. Cleaning.
 11. Warranties and bonds.
 12. Maintenance agreements and similar continuing commitments.
 13. Similar procedures and facilities.
 14. Any other appropriate item.
- C. As part of instruction for operating equipment, demonstrate the following procedures:
1. Start-up.
 2. Shut down.
 3. Emergency operations.
 4. Noise and vibration adjustments.
 5. Safety procedures.
 6. Economy and efficiency adjustments.
 7. Effective energy utilization.
 8. Similar operations.
 9. Any other appropriate procedure.
- D. Review maintenance and operations in relation to applicable warranties, agreements to maintain bonds, and similar continuing commitments.

- E. Owner will be notified in writing of scheduling and completion of all equipment operational instructions and demonstrations.

END OF SECTION

SECTION 01740 - WARRANTIES

PART 1 - GENERAL

1.01 SUMMARY

A. This Section specifies general administrative and procedural requirements for warranties required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.

1. Refer to Section 00700, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, as modified, for terms of the Contractor's special warranty of workmanship and materials.
2. General closeout requirements are included in Section 01700 - PROJECT CLOSEOUT.
3. Specific requirements for warranties for the Work and products and installation that are specified to be warranted are included in the individual Sections of the Specifications.
4. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.

B. Disclaimers and Limitations:

Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor of Contractual warranty requirements.

1.02 DESCRIPTION OF REQUIREMENTS/DEFINITIONS

A. Categories of Specific Warranties:

1. It is recognized that warranties on the Work are in several categories, including those of the conditions of the Contract and including (but not necessarily limited to) the following specific categories related to the individual units of Work specified in the sections of the Specifications:
 - a. Special Warranty (Guarantee): A warranty specifically written and signed by the Contractor for a defined portion of the Work; and, where required, countersigned by subcontractor, installer, manufacturer or other entity engaged by Contractor. Formerly generally recognized as (and sometimes specified in Contract Documents as) a "guarantee".
 - b. Specified Product Warranty: A warranty which is required by Contract Documents to be provided for a manufactured product which is incorporated into the Work, regardless of whether the manufacturer has published the warranty without consideration for specific

incorporation of product into the Work, or has written and executed the warranty as a direct result of Contract Documents requirements.

- c. Coincidental Product Warranty: A warranty which is not specifically required by Contract Documents (other than as specified in this Section) but which is available on a product incorporated into the Work by virtue of the fact that the manufacturer of the product has published the warranty in connection with purchases and uses of product without regard for specific applications, except as otherwise limited by terms of the warranty.

B. Definition: Manufactured Product:

A physical item for incorporation into the Work which has been produced from raw or natural materials by a manufacturing process and which is purchased from a manufacturer either specifically for the Work or for Contractor's/subcontractor's/fabricator's/installer's stock from which it is drawn for incorporation into the Work.

C. General Limitations:

1. It is recognized that specific warranties are intended primarily to protect Owner against failure of Work to perform as required and against deficient, defective and faulty materials and workmanship, regardless of sources. Except as otherwise indicated, specific warranties do not cover failures in Work which result from:
 - a. Damage or defect caused by abuse
 - b. Modifications not executed by the Contractor
 - c. Improper or insufficient maintenance
 - d. Improper operations, or normal wear and tear under normal usage
2. Although manufacturer's commitments in product warranties on products used in the Work are generally written to exclude product failures which result from failure of other Work (such as failure of substrate supporting product), such limitations in product warranties do not relieve Contractor of the more general warranties on Work which incorporates use of such products. Except as otherwise indicated, this same relationship applies to units of Work performed by other entities (other than manufacturers), such as fabricators, installers and subcontractors, who are required to countersign special Project warranties with Contractor for such units of Work.
3. Owner's signature on any manufacturer's or other warranties does not excuse the Contractor from its common law warranty obligations or its contractual warranty obligations.

1.03 WARRANTY REQUIREMENTS

A. Related Damages and Losses:

When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

B. Reinstatement of Warranty:

When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty will be equal to the original warranty from the date of correction or rebuilding.

C. Replacement Cost:

Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

D. Owner's Recourse:

1. Written warranties made to the Owner are in addition to contractual and implied warranties and will not limit the duties, obligations, rights and remedies otherwise available under the law, nor will warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
 - a. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.
2. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work until evidence is presented that entities required to countersign such commitments are willing to do so.
3. Written warranties shall not require the signature of the Owner for compliance.

1.04 SUBMITTALS

A. Submit written warranties to the Owner prior to the date certified for Final Payment.

1. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties.

Submit a draft to the Owner for approval prior to final execution.

- a. Refer to individual sections of Division 2 through 16 for specific content requirements and particular requirements for submittal of special warranties.
 2. Submit specific warranties for beginning of the warranty periods. Date(s) will be inserted to correspond with certification or acceptance dates, as established and accepted by the Owner.
- B. Form of Submittal:
1. Provide one Electronic Copy and one Hard copy of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Record Project Manual. All Warranties should be submitted through the owners Project Management Software.
 2. Bind warranties in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, with thickness as necessary to accommodate contents, and sized to receive 8-1/2" by 11" paper.
 - a. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address and telephone number of the installer.
 - b. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS," the Project title or name, and the name of the Contractor.
 3. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION



AVIATION AUTHORITY APPLICATION FOR PAYMENT

Exhibit A

APPLICATION No.: _____ for the period ending: _____
 HCAA PROJECT No.: _____
 PROJECT DESCRIPTION: _____
 CONTRACT TYPE: Design-Bid Design-Build Const Mgmt.
 APPLICANT : _____
 ADDRESS: _____

The undersigned Contractor / Design Builder / Construction Manager certifies that to the best of their knowledge, information and belief, the work covered by this Application has been completed in accordance with the Contract Documents; that all amounts have been paid by the undersigned for work for which previous Certificates for Payment were issued and payments received from the Owner; and that current payment shown herein is now due.

In consideration of the amounts and sums received, the undersigned does hereby waive and release to the Owner any and all claims and liens and rights to liens upon the premises described below, and upon improvements now thereon, and upon the monies or other considerations (due as of the date of the aforesaid payment application or invoices from the Owner or from any other person, firm or corporation), said claims and liens and rights to liens being on account of labor, services, materials, fixtures or apparatus heretofore furnished by or at the request of the undersigned. The premises as to which said claims and liens and right to liens are hereby released as identified above.

The undersigned further represents and warrants that s/he is duly authorized and empowered to sign and execute this waiver on her/his own behalf and on behalf of the company or business for which s/he is signing; that s/he has properly performed all work and furnished all the materials of the specified quality per plans and specifications and in a good and workmanlike manner through the date of said payment application or invoice; that s/he has paid for all the labor, materials, equipment, and services that s/he has used or supplied to the above premises through the date of said payment application or invoice; that s/he has no other outstanding and unpaid payment applications, invoices, retentions, holdbacks, chargebacks or unbilled work or material against the Owner as of the date of the aforementioned payment application; and that any materials which have been supplied or incorporated into the above premises were either taken from his fully-paid or open stock or were fully paid for and supplied as stated on the statements accompanying the said payment application or invoice.

The undersigned further agrees to reimburse and does hold harmless and fully indemnify Owner for any losses or expenses should any such claims, lien or right to a lien be asserted (by the undersigned or by any laborer, materialman or subcontractor or the undersigned), including, without implied limitation, attorneys' fees incurred in the defense thereof.

The undersigned further accepts and acknowledges the receipt of the aforesaid sums in full accord and satisfaction for the aforementioned claims with full knowledge that the Owner, its successors and assigns, are relying thereon; and furthermore, the undersigned agrees to perform, now and in the future, each and every covenant and provision of his written contract as modified or changed in writing with the Owner, hereby acknowledging that said contract is now in full force and effect.

In addition, for and in consideration of the amounts and sums received, the undersigned hereby waives, releases and relinquishes any and all claims, rights or causes of action whatsoever arising out of or in the course of the work performed on the above-mentioned project, contract or event transpiring prior to the date hereof, excepting the right to receive payment of work performed and properly completed and retainage, if any, after the date of the above-mentioned payment application or invoices.

The present status of this Contract is as follows:

ORIGINAL GMP / CONTRACT SUM:		\$	-
NET CHANGE BY PREVIOUS CHANGE ORDERS:		\$	-
GMP or CONTRACT SUM TO DATE:		\$	-
TOTAL COMPLETED & STORED TO DATE:	<u>#DIV/0!</u>	\$	-
CURRENT RETAINAGE AMOUNT:	<u>#DIV/0!</u>	\$	-
TOTAL EARNED LESS RETAINAGE		\$	-
LESS PREVIOUS CERTIFICATES FOR PAYMENT		\$	-
CURRENT PAYMENT DUE:		\$	-

CONTRACTOR/DESIGN BUILDER/CONSTR. MGR.

By _____ Date _____
 State of _____ County of _____
 Subscribed and sworn to/before me this _____ day of _____ year _____
 Notary Public: _____
 My commission expires: _____

DESIGN PROFESSIONAL'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, on-site observations and the data comprising the above application, the Architect / Engineer certifies that the Work has progressed as indicated; that to the best of their knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents; and that the Applicant is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED	\$	-
-------------------------	----	---

Design Professional _____ **Date** _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Applicant named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner under this contract.

ACKNOWLEDGED:

HCAA Construction Project Manager **Date** _____

Director of Construction **Date** _____

Jeff Siddle, P.E. **Date** _____

Vice President of Planning & Development

APPROVED FOR PAYMENT:

By: Al Illustrato **Date** _____

Executive Vice President of Facilities and Administration

**CHANGE ORDER
HILLSBOROUGH COUNTY AVIATION AUTHORITY**

PROJECT:**CHANGE ORDER No:****INITIATION DATE:****OWNER:**

Hillsborough County Aviation Authority
P.O. Box 22287
Tampa, Florida 33622-2287

HCAA PROJECT No:**FAA AIP No:****FDOT FM No:****CONTRACT DATE:****TO (Contractor):**

You are directed to make the following changes in this Contract dated _____ by and between yourself and the Hillsborough County Aviation Authority, in accordance with its conditions. The Contract Documents shall apply to this Change Order. All terms and conditions of the Contract remain unchanged, except as they may be expressly modified by the terms of this Change Order. This Change Order addresses all adjustments to the Contract Sum and Contract Time for which the Contractor may be entitled with respect to the subject change work, including all labor, materials, equipment, services, overhead and profit necessary to accomplish the change work, which change work includes all items that are expressly identified in this Change Order, as well as all items that are reasonably inferable as being necessary or appropriate for the satisfactory completion of the subject change work by the Contractor. The total cost adjustment to the Contract Sum reflected in this Change Order, if any, includes all direct, indirect and impact costs resulting from the subject change, including, but not limited to, extended or unabsorbed home office overhead costs, extended general conditions and field overhead, extra equipment (whether operating or idle), costs relating to labor and equipment inefficiency, taxes, insurance costs, bonds, profit, interest and all other fees and costs for which the Contractor may have entitlement to under the Contract or otherwise, arising out of or relating to the change work that is the subject of this Change Order. In addition, this Change Order encompasses all time adjustments to the Contract Time, if any, relating to any delay, disruption, acceleration, interference, escalation, or other time related impacts for which the Contractor may be entitled under the Contract or otherwise, arising out of or relating to the change work that is the subject of this Change Order. In addition, this Change Order constitutes a full accord and satisfaction for all of the Contractor's outstanding extra work items, claims, overtime charges, changes to and/or interpretations of the Contract Documents with respect to the Contract. It is agreed and understood that the Contractor, by executing this Change Order, hereby waives all claims, through the date of this Change Order, with respect to the Work or the Project. This Change Order in no way relieves the Contractor from providing all outstanding obligations to the Owner under the Contract, including, but not limited to, close-out obligations, punch list items, warranty and correction of defective and non-conforming work.

Description:**Attachments:**

Not valid until signed by the Owner. Signature by the Contractor indicates final agreement herewith, including all adjustments in the Contract Sum and/or the Contract Time.

The original Contract Sum was _____ \$ _____
 Net change by previously authorized Change Order _____ \$ _____
 The Contract Sum prior to this Change Order was _____ \$ _____
 The Amount of this Change Order is _____ \$ _____
 The new Contract Sum including this Change Order will be _____ \$ _____
 The Contract Time will be Increased , Decreased , Unchanged , _____ calendar days.
 The date of substantial completion will change from _____ .
 The DBE goal as a result of this change will change from _____ .

Issued and Approved by:

Agreed To:

Architect / Engineer

Contractor

Address

Address

By: _____ Date

By: _____ Date

Reviewed:

Authorized:

Hillsborough County Aviation Authority
Owner

Hillsborough County Aviation Authority
Owner

By: Jeff Siddle, P.E. _____ Date
V.P. of Facilities

By: Joseph W. Lopano _____ Date
Chief Executive Officer

NORTH AIR CARGO ROOF REHABILITATION

TECHNICAL SPECIFICATIONS

HCAA PROJECT NO. 6530 18

SPECIFICATIONS TABLE OF CONTENTS
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HCAA Project Number 6530 18
TAMPA INTERNATIONAL AIRPORT
Tampa, Florida

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SECTION 020000 - DESCRIPTION OF WORK - RESTORATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and General Requirements of the specifications apply to this Section.

1.2 PROJECT DESCRIPTION

- A. Work will be performed at locations shown on Drawings.
- B. Work required in these areas and estimated quantities are listed on Bid Form. Bid Quantities associated with Work Items listed on Drawings have been estimated and are subject to measurement as defined in Article "Measurements." Where additional Work Items are described, but not specifically located and/or shown on Drawings, Contractor shall be responsible for locating and marking areas to be repaired.
- C. Work Item specifications and details shall govern all repair operations. Locations where Work Items apply are shown on Drawings as symbols.
- D. Payment shall be made on basis of actual approved Work performed as measured in place.
- E. Project consists of reroofing of the North Air Cargo Building at Tampa International Airport.
 - 1. Reroofing: This project consists of roofing removal and replacement over the entire building, as well as steel roof decking repairs.

1.3 MEASUREMENTS

- A. Before ordering any material or doing any Work, Contractor shall verify all measurements at Project site and shall be responsible for correctness of same.
- B. Before proceeding with each Work Item, Contractor shall locate, mark, and measure quantity of each item and report quantities to Owner. If measured quantities exceed Owner's estimate, Contractor shall obtain written authorization to proceed from Owner before executing Work required for that Work Item.
- C. Measurement of quantities for individual Work Items will be performed by Contractor and reviewed by Owner.
- D. Cost of Work included in each Work Item for quantities as indicated in Contract Documents shall be included in Base Bid.

1. Additions to or deductions from lump sum price for quantities of each Work Item added to or deducted from Work respectively shall be at unit prices indicated in Bid Form and shall constitute payment or deductions in full for all material, equipment, labor, supervision and incidentals necessary to complete Work.

1.4 WORK SEQUENCE

- A. Prior to commencement of work, Contractor shall submit a project schedule detailing the work and meet with Owner's representatives to review the document. Contractor shall give Airport Authority notice of areas to be worked in at least 2 working days in advance of actual Work.
- B. Contractor shall notify Owner's representative at least 48 hr prior to beginning temporary shutting down any utility and heating or cooling units.
- C. Contractor shall remove all debris from Work area on daily basis and dispose of same at authorized dump sites.
- D. Contractor shall remove dust and air transported debris from remainder of facility on a daily basis.

1.5 CONTRACTOR USE OF PREMISES

- A. General: Work hours shall be based on the work zone as follows:
 1. Work hours for this project are identified on Drawing G-005 additional information in Division 1.
 2. Contractor's use of premises is limited only by Owner's right to perform construction operations with its own forces or to employ separate contractors on portions of project.
- B. General: Limit use of premises to construction activities in areas indicated; allow for Owner occupancy and use by public.
 1. Confine operations to areas within Contract limits indicated. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.
 2. Keep driveways, ramps, and entrances serving the premises clear and available to the Owner and Owner's employees at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
- C. Contractor's use of premises shall not interfere with operation of same.
- D. Contractor's debris removal path shall be over non-replaced roofing surfaces unless physical restraints prevent use of such path.

- E. Contractor shall confine its apparatus, materials, equipment, tool cribs, field offices and operations to areas designated by Owner. Premises shall not be unreasonably encumbered with materials and equipment. Neat and orderly stockpiling and other operations shall be maintained, and debris shall be regularly removed from site. Contractor shall not load or permit any part of structure to be loaded with weight that will endanger structural integrity or safety of facility.
- F. Contractor Parking: Contractor's employees may park in the available parking garages but must pay the prevailing parking rates. Parking availability is not guaranteed. See phasing plan and notes on drawings for additional parking information.
- G. On-Site Storage: Contractor shall not store materials or equipment at site of Work for more than one week prior to time that materials or equipment are incorporated into Work. On-site storage will be limited to the designated staging located on the drawings. Contractor is responsible for safeguarding any stored materials. Owner is not responsible for any damage or theft of stored materials.

1.6 BARRICADES

- A. Not Applicable

1.7 TRAFFIC OFFICERS AND FLAGMEN

- A. See Section 01110 – “Airport Project Procedures.”

1.8 CLAIMS

- A. See Section 00700 – “General Conditions of the Contract.”

1.9 OWNER OCCUPANCY

- A. See Section 01110 – “Airport Project Procedures.”

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION 020000

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SECTION 020010 - WORK ITEMS

PART 1 - GENERAL

RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General Conditions and Divisions 1, 2, 3, 7, 9 and 10 Specification Sections apply to this Section.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 WORK ITEMS

WI 1.0 GENERAL REQUIREMENTS

WI 1.1 PROJECT MOBILIZATION

- A. Scope of Work:
 - 1. This item shall consist of the preparatory work and operations in mobilizing for beginning work on the project, including, but not limited to, those operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site. For the establishment by the Contractor of staging areas, temporary offices, building facilities, all utilities, safety equipment and first aid supplies, sanitary and other facilities, as required by these Specifications, and State and local laws and regulations. The preparation, submittal and approval of all shop drawings, the ordering of required material and the cost to establish, maintain and restore to the existing condition, of the Contractor staging area. Procurement period preceding mobilization is provide for the procurement of long lead items and is in addition to mobilization.
 - 2. The costs of bonds and any required insurance and other preconstruction expense necessary for the start of the work, excluding the cost of construction materials, shall be included in this Item.
 - 3. Included in this item are the furnishing, placing, repositioning, maintaining and removal of all temporary barriers as required, as well as, any and all other costs associated with the required maintenance of project phasing.
 - 4. This item of work will also include any other item or items of work shown, implied or required for the completion of the project that are not directly paid for under other pay items.
 - 5. Included in this item are all costs associated with the required meetings and coordination with the Authority. In addition, all costs associated with the Contractor badging and the quality control and safety plan requirements, as well as preparation and maintenance of the project schedule, shall be included in this item.

6. Included in this item are all costs associated with pre-construction project set-up as defined in the Division 01 specifications.
7. DEMOBILIZATION: The Contractor shall completely demobilize and remove from the project site all equipment, vehicles, materials, offices and waste within 10 days of final acceptance. The remaining 10% of WI 1.1 will not be paid until demobilization has been completed. Refer to Division 01 for close out requirements.

B. Materials

1. None

WI 1.7 OWNER'S ALLOWANCES

A. Scope of Work:

1. An Owner's Allowance in the amount indicated in the Bid Schedule has been established for the possible increases in quantities established work items or for unforeseeable additional work elements that are not specifically identified in the plans or specifications for which there are bid items or for other work items which may be added at the Owners discretion. Detailed scopes and/or quantities will be provided to the Contactor during the progress of the project as necessary and applicable to complete the project. Refer to Section 01020 "Owner's Allowance" for requirements.

B. Materials

1. None

WI 43.0 METAL DECKING

WI 43.1 CLEAN AND PAINT STEEL ROOF DECKING

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary locate lightly corroded steel decking, contain surface preparation debris and paint during operations and prepare, prime and paint metal deck as designated by the Engineer.

B. Materials

1. Paint materials shall be as specified in Division 09 Section "Exterior Painting."

C. Execution

1. Contractor shall locate and verify with Owner all Work areas.

2. Contractor shall take all necessary measures to contain debris and paint to immediate Work area to protect public from injury and vehicles and public property from damage.
5. Contractor shall prepare all surfaces with surface corrosion in accordance with SSPC-SP3 "Power Tool Cleaning".

WI 43.2 OVERLAY PITTED STEEL ROOF DECKING

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to locate moderately pitted steel roof decking and install a sheet of metal deck to supplement the existing decking. The overlay metal decking is to match the existing metal deck type.

B. Materials

1. Metal roof deck shall be as specified in Division 5 "Steel Decking".

C. Execution

1. Contractor shall locate and verify with Owner all Work areas.
2. Contractor shall verify roof deck type and size.
3. Contractor shall overlay roof decking material over the existing roof deck and secure in place.

WI 43.3 REMOVAL AND REPLACEMENT OF STEEL ROOF DECKING

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to locate severely corroded roof decking, cut out the existing decking and replace the decking with a new section of roof deck material to match the existing decking type. Work also consists of providing temporary protection of interior surfaces and occupants during roof deck replacement activities so as not to effect business operations of tenants.

B. Materials

1. Metal roof deck shall be as specified in Division 5 "Steel Decking".

C. Execution

1. Contractor shall locate and verify with Owner all Work areas.
2. Contractor shall verify roof deck type and size.
3. Contractor shall provide interior protection prior to existing roof decking removal.
4. Contractor shall cut out and remove corroded metal deck as designated by the Engineer.

5. Contractor shall install new metal deck to cover the location of the removed deck, overlap and attach to the existing metal decking to remain.

WI 43.4 ADDITIONAL FASTENERS IN STEEL ROOF DECK

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to provide the additional roof deck fasteners as shown on the drawings.

B. Materials

1. Metal roof deck fasteners shall be as shown on the drawings and specified in Division 5 "Steel Decking".

C. Execution

1. Contractor shall locate and verify with Owner all Work areas.
2. Contractor shall verify roof deck type and size.
3. Contractor shall install additional roof deck fasteners at supporting joints and roof deck side laps at spacing shown on the drawing.

WI 96.0 ROOFING AND COPING

WI 96.1. ROOFING REMOVAL AND REPLACEMENT WITH SINGLE-PLY ROOF SYSTEM INCLUDING SHEET METAL AND LIGHTNING PROTECTION

A. Scope of Work

Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to to remove the existing roofing system, contain debris and dispose of debris, install a new roofing system and accessories as shown in the drawings. The first layer of insulation and membrane will be induction welded to the roof deck.

B. Materials

1. Materials shall be as specified in Division 02 Section "Selective Structure Demolition."
2. Materials shall be as specified in Division 07 Section "Preparation fo Reroofing."
3. Wood nailers materials shall be specified in Division 06 Section "Miscellaneous Rough Carpentry."
4. PVC Roofing System shall be as specified in Division 07 Section "PVC Roofing."
5. Sheet Metal materials shall be as specified in Division 07 Section "Sheet Metal Flashing and Trim."
6. Sealant materials shall be as specified in Division 07 Section "Architectural Joint Sealants."

7. Lightning Protection shall be specified in Division 26 Section "Lightning Protection for Structures."

C. Execution

1. Contractor shall locate and verify with Owner all Work areas.
2. Contractor only remove as much roofing material as can be replaced in a day.
3. Contractor shall take all necessary measures to contain debris and properly dispose of debris.
4. Contractor shall remove the existing roofing under W.I. 96.1.
5. Contractor shall inspect the condition of existing materials to remain such as the roof deck and wood nailers for deterioration. If these items are deteriorated, wet or unsuitable for new roofing materials, notify the Owner.
6. Contractor shall install insulation in attachment method indicated on the drawings and as recommended by the manufacturer to meet the minimum wind uplift requirements.
7. Contractor shall install the roof membrane in the attachment method indicated on the drawings and as recommended by the manufacturer to meet the minimum wind uplift requirements.
8. Contractor shall install flashing and edge metal as indicated on the drawings and as recommended by the manufacturer to meet the minimum wind uplift requirements.
9. Contractor shall design and install a lightning protection system as indicated on the drawings and in accordance with the manufacturer's instructions.

WI 96.2 REPLACEMENT WOOD BLOCKING

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision and incidentals necessary to install additional blocking/wood nailers at locations where the existing blocking is wet or deteriorated.

B. Materials

1. Wood nailers materials shall be specified in Division 06 Section "Miscellaneous Rough Carpentry."

C. Execution

1. Contractor shall locate and verify with Owner all Work areas.
2. Contractor shall removed the wet or deteriorated wood.
3. Contractor shall install new wood blocking/nailers with anchors which meet wind uplift requirements indicated on the drawings.

3.2 MEASUREMENT AND BASIS OF PAYMENT

- A. **MOBILIZATION/DEMOBILIZATION AND MAINTENANCE OF TRAFFIC.** The work and incidental costs covered under this item will be paid for at the Contract lump sum price for the item of mobilization and general conditions. No additional payment will be made for demobilization and/or remobilization due to project shutdowns or suspensions of the work identified in the project documents. No payment for any percentage of construction mobilization shall be made until the Contractor’s initial project schedule; safety plan compliance document (SPCD) and quality control plan are approved by the Owner.

Payment for the Contractors Bond will be deducted from the Mobilization/Demobilization work item for the actual cost without markup. Partial payments for the remaining value of the Mobilization/Demobilization and Phasing work item will be made in accordance with the following schedule milestones:

SCHEDULE MILESTONE	ALLOWABLE PERCENT OF LUMP SUM PRICE FOR THE ITEM**
Notice to Proceed	0% (Except for Bonding and Insurance)
14 day Mobilization Period	10%
To be equally divided for each month of construction duration. Subject to change based on the actual schedule. Percentages shown are based on the Schematic Project Schedule as shown in the drawings.	11.4%
	11.4%
	11.4%
	11.4%
	11.4%
	11.4%
	11.4%
Demobilization	10%
TOTAL:	100%

** The Percent of Lump Sum price for Work Item 1.1 after deduction for Bonding. In the event that the total lump sum bid amount for mobilization exceeds ten percent (10%) of the original Contract amount for the project, the difference (remainder) will not be paid until the project is

complete and the Owner have issued a statement of substantial completion. This date shall be set in accordance with the project documents.

The standard retainage, as herein specified will be applied to these allowances. Partial payments made on this item shall in no way act to preclude or limit any of the provisions for partial payments otherwise provided for by the Contract.

In the event the contract completion date is extended or additional work is added to the project, no additional payment will be made for the mobilization unless otherwise addressed by change order.

Payment will be made under:

Item 020010.1.1 Project Mobilization/Demobilization - per lump sum in accordance with payment schedule above.

- B. OWNER'S ALLOWANCES. Payment for additional work being performed under existing items of work shall be paid for per those items. Payment for other items shall be substantiated by complete itemized statements showing quantities and unit prices for materials, labor (including applicable fringe benefits) and equipment. Costs of labor (including applicable fringe benefits) and materials shall be actual costs to the Contractor. Refer to Section 01020 "Owner's Allowance" for requirements. The Contractor shall submit receipts or other evidences, as the Owner may direct, showing its actual costs and its rights to the payment. The Contractor shall only be paid for equipment, material and labor expended. An estimation of the percent complete of the work will be determined by the Design Professional and used as the basis of payment should the Work be conducted on a lump sum basis.

Payment will be made under:

Item 0020010.1.7 Owner's Allowances.

- C. UNIT PRICE ITEMS MEASUREMENT AND PAYMENT. Unit price item quantities may increase or decrease to zero. Quantities are estimates for information only. Measurement and payment will be made based on the actual quantity of work performed.

- D. METAL DECKING. Payment for all work under this section shall be made under the contract unit price for metal decking repairs and shall be full compensation for all materials, labor, equipment, testing, and incidentals required to complete the work in accordance with these specifications, the plans and directed by the Owner.

Measurement and payment will be made under:

- | | |
|------------------|---|
| Item 020010.43.1 | Clean and Paint Steel Roof Decking - - per square foot |
| Item 020010.43.2 | Overlay Pitted Steel Roof Decking - - per square foot |
| Item 020010.43.3 | Removal and Replacement of Steel Roof Decking - - per square foot |
| Item 020010.43.4 | Additional Fasteners in Steel Roof Decking - - per square foot |

F. ROOFING AND COPING. Payment for all work under this section shall be made under the contract lump sum price based on the percentage completed or unit price of replacement wood blocking shall be full compensation for all materials, labor, equipment, saw cutting, testing, and incidentals required to complete the work in accordance with these specifications, the plans and directed by the Owner.

Measurement and payment will be made under:

Item 020010.96.1	Roofing Removal and Replacement with Single-Ply Roof - - lump sum
Item 020010.96.2	Replacement Wood Blocking - - per linear foot

END OF SECTION 020010

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SECTION 024110 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and removal of the existing roofing system.
 - 2. Repair procedures for selective demolition operations.
- B. Related Sections include the following:
 - 1. Division 01 Section "Summary of Work" for use of the premises and phasing requirements.
 - 2. Division 01 Section "Project Coordination" for preconstruction photographs taken before selective demolition and progress photographs.
 - 3. Division 01 Section "Temporary Facilities" for temporary construction and environmental-protection measures for selective demolition operations.
 - 4. Division 01 Section "Cutting and Patching" for cutting and patching procedures for selective demolition operations.
 - 5. Division 01 Section "Construction Cleaning" for removal of waste.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.5 SUBMITTALS

- A. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Engineers and owners, and other information specified.
- B. Proposed Dust-Control and Noise-Control Measures: Submit statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are later determined to be inadequate.
- C. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Coordination for shutoff, capping, and continuation of heating and lighting.
 - 3. Locations of dumpster.
 - 4. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- D. Pre-demolition Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations. Submit before Work begins.
- E. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.6 QUALITY ASSURANCE

- A. Professional Engineer Qualifications: Comply with Division 01 Section "Quality Control."
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Standards: Comply with ANSI A10.6 and NFPA 241.
- D. Pre-demolition Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to selective demolition including, but not limited to, the following:

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.

1.7 PROJECT CONDITIONS

- A. Owner will occupy the building immediately below the selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.
- B. Maintain access to existing walkways, loading docks and parking areas.
 1. Do not close or obstruct walkways, loading docks or parking areas or other occupied or used facilities without written permission from the Owner.
- C. Owner assumes no responsibility for condition of areas to be selectively demolished.
 1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 2. Before selective demolition, Owner will remove the following items:
 - a. None.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Owner. Hazardous materials will be removed by Owner under a separate contract.
 2. A report of Asbestos testing will be made available to the contractor. Refer to Appendix A.
- E. Storage or sale of removed items or materials on-site will not be permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- B. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Owner.
- D. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES

- A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.
- B. Do not interrupt existing utilities serving occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to authorities having jurisdiction.
 - 1. Provide at least 72 hours' notice to Owner if shutdown of service is required during changeover.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
 - 2. Erect temporary protection, such as walks, fences, railings, canopies, covered passageways and vehicular barriers, where required by authorities having jurisdiction. Temporary barriers and controls shall meet the occupancy requirements of each side of the barrier.

3. Protect existing site improvements, appurtenances, and landscaping to remain.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
- C. Temporary Enclosures: Provide temporary enclosures for protection of existing building and construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
- D. Temporary Partitions: Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.

3.4 POLLUTION CONTROLS

- A. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
1. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.5 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Do not use cutting torches.
 - 4. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 6. Dispose of demolished items and materials promptly.
 - 7. Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.

- B. Existing Facilities: Comply with Owner's requirements for using and protecting elevators, stairs, walkways, loading docks, building entries, and other building facilities during selective demolition operations.

- C. Removed and Reinstalled Items: Comply with the following:
 - 1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
 - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 - 3. Protect items from damage during transport and storage.
 - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Owner, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

- E. Roofing: Remove no more existing roofing than can be covered in one day by new roofing. Refer to applicable Division 07 Section for new roofing requirements.

3.6 PATCHING AND REPAIRS

- A. General: Promptly repair damage to adjacent construction caused by selective demolition operations.
- B. Patching: Comply with Division 01 Section "Cutting and Patching."
- C. Repairs: Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
- D. Finishes: Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.
- E. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.8 SELECTIVE DEMOLITION SCHEDULE

- A. Existing Construction to Be Removed: Existing roofing and insulation, including accessories.
- B. Existing Items to Be Removed and Salvaged: None.
- C. Existing Items to Be Removed and Reinstalled: None.
- D. Existing Items to Remain: Roof penetrations including exhaust stacks, lightning protection terminals, plumbing vents, heating/cooling equipment, roof drains, pipe penetrations and others as indicated on the drawings.

END OF SECTION 024110

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SECTION 053100 - STEEL DECKING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Roof deck replacement or overlay.
- B. Related Requirements:
 - 1. Section 024110 Selective Structure Demolition for interior protection requirements.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of deck, accessory, and product indicated.
- B. Shop Drawings:
 - 1. Include layout and types of deck panels, anchorage details, reinforcing channels, pans, cut deck openings, special jointing, accessories, and attachments to other construction.

1.4 INFORMATIONAL SUBMITTALS

- A. Welder certificates signed by Contractor certifying that welders comply with requirements specified under the "Quality Assurance" article.
- B. Product certificates signed by manufacturers of steel deck certifying that their products comply with specified requirements.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that each of the following complies with requirements:
 - 1. Power-actuated mechanical fasteners.
- D. Evaluation Reports: For steel deck.

- E. Field quality-control reports.
- A. See requirements of Division 01 Section, "Submittal Procedures," Part 1 headings, "Shop Drawings, Product Data, and Samples," for limits to resubmittals.
- B. See requirements of Division 01 Section, "Shop Drawings, Product Data, and Samples," Part 2 heading, "Requests for Information," for RFI constraints.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed steel deck similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.
- B. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.
- C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.3, "Structural Welding Code - Sheet Steel."
 - 1. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.
- D. Fire-Test-Response Characteristics: Where indicated, provide steel deck panels identical to those tested as part of an assembly for fire resistance per ASTM E 119 by a testing and inspection agency performing testing and follow-up services, that is acceptable to authorities having jurisdiction.
 - 1. Fire-Resistance Ratings: As indicated by design designations listed in UL "Fire Resistance Directory," or by Warnock Hersey or another testing and inspecting agency.
 - 2. Labeling: Identify steel deck with appropriate markings of applicable testing and inspecting agency.
- E. Engineer Qualifications: Professional engineer legally authorized to practice in Florida and experienced in providing engineering services of the kind indicated that have resulted in installation of steel deck similar to this Project in material, design, and extent and that have a record of successful in-service performance.

1.6 REFERENCES

- A. American Institute of Steel Construction (AISC):
 - 1. AISC, "Code of Standard Practice for Steel Buildings and Bridges."
 - 2. AISC, "Manual of Steel Construction."
 - 3. AISC, "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings."

B. American Iron and Steel Institute (AISI):

1. AISI, "Specification for the Design of Cold-Formed Steel Structural Members."

C. ASTM International (ASTM):

1. ASTM A36, "Specification for Structural Steel."
2. ASTM A525, "Specification for General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process."
3. ASTM A653, "Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process."
4. ASTM A1008A, "Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable."
5. ASTM B633, "Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel."

D. American Welding Society (AWS):

1. AWS D1.1, "Structural Welding Code-Steel."

E. National Association of Architectural Metal Manufacturers (NAAMM):

1. NAAMM, "Metal Stair Manual."

F. Steel Deck Institute (SDI):

1. SDI Pub. #27, "Design Manual for Composite Decks, Form Decks, Roof Decks, and Cellular Metal Floor Deck with Electrical Distribution."

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.

1.8 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. American Buildings Co.
 2. ASC Pacific Inc.

3. Bowman Metal Deck Armco, Inc.
4. Consolidated Systems, Inc.
5. Epic Metals Corp.
6. Marlyn Steel Products, Inc.
7. Robertson A United Dominion Co.
8. Roof Deck, Inc.
9. United Steel Deck, Inc.
10. Verco Manufacturing Co.
11. Vulcraft Div. of Nucor Corp.
12. Walker Div. of Butler Manufacturing Co.
13. Wheeling Corrugating Co., Div. of Wheeling-Pittsburgh Steel Corp.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. AISI Specifications: Comply with calculated structural characteristics of steel deck according to AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members."
- B. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 ROOF DECK REPLACEMENT

- A. Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 31, and with the following:
 1. Prime-Painted Steel Sheet: ASTM A 1008/A 1008M, Structural Steel (SS), Grade 33 (230) minimum, shop primed with manufacturer's standard baked-on, rust-inhibitive primer.
 - a. Color: White top surface with white underside. Match existing.
 2. Deck Profile: Match existing.
 3. Profile Depth: 1-1/2 inches (38 mm). Verify in field.
 4. Span Condition: Triple span.
 5. Side Laps: Match existing.

2.3 ACCESSORIES

- A. General: Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.
- B. Mechanical Fasteners: Corrosion-resistant, low-velocity, power-actuated or pneumatically driven carbon-steel fasteners; or self-drilling, self-threading screws.
- C. Side-Lap Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, No. 10 (4.8-mm) minimum diameter.
- D. Repair Paint: Refer to Section 009113 Exterior Painting.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine the condition of the metal deck for corrosion and/or pitting.
- B. Proceed with installation only after directed by Owner.

3.2 PREPARATION

- A. Do not place deck panels on concrete supporting structure until concrete has cured and is dry.
- B. Locate decking bundles to prevent overloading of supporting members.

3.3 INSTALLATION, GENERAL

- A. Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 31, manufacturer's written instructions, and requirements in this Section.
- B. The existing building is a warehouse and will be in continuous occupancy during the work. Protect the occupants and the public from injury or hazard during the performance of the work. Before removing deteriorated steel decking, install interior protection underneath the work area. Submit interior protection plan to Owner for review and approval prior to installation. Refer to specification Section 024110 Selective Structure Demolition for interior protection requirements.
- C. Install temporary shoring before placing deck panels if required to meet deflection limitations.
- D. Locate deck bundles to prevent overloading of supporting members.

- E. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.
- F. Place deck panels flat and square and fasten to supporting frame without warp or deflection.
- G. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to deck.
- H. Provide additional reinforcement and closure pieces at openings as required for strength, continuity of deck, and support of other work.
- I. Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds, and methods used for correcting welding work.

3.4 ROOF-DECK REPLACEMENT INSTALLATION

- A. Fasten roof deck panels to steel supporting members, at intervals not exceeding 6 inches on center, and as follows:
 - 1. Mechanically fasten with self-drilling, No. 12 (5.5-mm-) diameter or larger, galvanized steel screws.
- B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding 6 inches on center, and as follows:
 - 1. Mechanically fasten with self-drilling, No. 10 (4.8-mm-) diameter or larger, galvanized steel screws.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections.
- B. Fastener patterns and metal decking replacement will be inspected and tested.
- C. Testing agency will report inspection results promptly and in writing to Contractor.
- D. Remove and replace work that does not comply with specified requirements.
- E. Additional inspecting, at Contractor's expense, will be performed to determine compliance of corrected work with specified requirements.

3.6 PROTECTION

- A. Repair Painting: Wire brush and clean rust spots, welds, and abraded areas on both surfaces of prime-painted deck immediately after installation, and apply repair paint.
 - 1. Apply repair paint, of same color as adjacent shop-primed deck, to bottom surfaces of deck exposed to view.
 - 2. Wire brushing, cleaning, and repair painting of bottom deck surfaces are included in Division 09, Section "Exterior Painting" and Section "Interior Painting."
- B. Repair Painting: Wire brushing, cleaning, and repair painting of rust spots, welds, and abraded areas of both deck surfaces are included in Division 09 Section "Exterior Painting" and Division 09 Section "Interior Painting."
- C. Provide final protection and maintain conditions to ensure that steel deck is without damage or deterioration at time of Substantial Completion.

END OF SECTION 053100

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SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Wood blocking.

1.3 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal (38 mm actual) size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater size but less than 5 inches nominal (114 mm actual) size in least dimension.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
 - 3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D5664.
 - 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
 - 1. Preservative-treated wood.
 - 2. Fire-retardant-treated wood.
 - 3. Power-driven fasteners.
 - 4. Post-installed anchors.
 - 5. Metal framing anchors.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 15 percent unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

2. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Application: Treat all miscellaneous carpentry unless otherwise indicated:
 1. Wood nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 2. Wood sills, sleepers, blocking, and similar concealed members in contact with masonry or concrete.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 1. Blocking.
 2. Nailers.
- B. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- C. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
- B. Nails, Brads, and Staples: ASTM F1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

2.5 MISCELLANEOUS MATERIALS

- A. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch (0.6 mm). Provide a high temperature underlayment under metal flashing.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- C. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- D. Do not splice structural members between supports unless otherwise indicated.
- E. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- F. Comply with AWWA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- G. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- H. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 2. ICC-ES evaluation report for fastener.
- I. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 INSTALLATION OF WOOD BLOCKING AND NAILER

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 PROTECTION

- A. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

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SECTION 070150.19 - PREPARATION FOR REROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Full tear-off of entire roof covering system.
- B. Related Requirements:
 - 1. Section 015000 "Temporary Facilities" for temporary construction and environmental-protection measures for reroofing preparation.

1.3 DEFINITIONS

- A. EPS: Molded (expanded) polystyrene.
- B. Full Roof Tear-off: Removal of existing roofing system down to existing roof deck.
- C. OSB: Oriented strand board.
- D. Partial Roof Tear-off: Removal of selected components and accessories from existing roofing system.
- E. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to work of this Section.
- F. Roof Re-Cover Preparation: Existing roofing system is to remain and be prepared for new roof installed over it.

1.4 PREINSTALLATION MEETINGS

- A. Preliminary Roofing Conference: Before starting removal Work, conduct conference at Project site.

1. Meet with Owner, testing and inspecting agency representative, roofing Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing tear-off, including, but not limited to, the following:
 - a. Reroofing preparation, including roofing system manufacturer's written instructions.
 - b. Temporary protection requirements for existing roofing system components that are to remain.
 - c. Existing roof drains and roof drainage during each stage of reroofing, and roof-drain plugging and plug removal.
 - d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
 - e. Existing roof deck conditions requiring Architect notification.
 - f. Existing roof deck removal procedures and Owner notifications.
 - g. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
 - h. Structural loading limitations of roof deck during reroofing.
 - i. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
 - j. HVAC shutdown and sealing of air intakes.
 - k. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
 - l. Asbestos removal and discovery of asbestos-containing materials.
 - m. Governing regulations and requirements for insurance and certificates if applicable.
 - n. Existing conditions that may require Architect notification before proceeding.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
 1. Include certificate that Installer is approved by warrantor of existing roofing system.
 2. Include certificate that Installer is licensed to perform asbestos abatement.
- B. Field Test Reports:
 1. Fastener pull-out test report.

- C. Videotape: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, that might be misconstrued as having been damaged by reroofing operations.
 - 1. Submit before Work begins.
- D. Landfill Records: Indicate receipt and acceptance of demolished roofing materials and hazardous wastes, such as asbestos-containing materials, by a landfill facility licensed to accept them.

1.7 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with governing EPA notification regulations before beginning roofing removal.
 - 2. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.8 FIELD CONDITIONS

- A. Existing Roofing System: Built-up roofing system.
- B. Owner will occupy portions of building immediately below reroofing area.
 - 1. Conduct reroofing so Owner's operations are not disrupted.
 - 2. Provide Owner with not less than 72 hours' written notice of activities that may affect Owner's operations.
 - 3. Coordinate work activities daily with Owner so Owner has adequate advance notice to place protective dust and water-leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below work area.
 - 4. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below affected area.
 - a. Verify that occupants below work area have been evacuated before proceeding with work over impaired deck area.
- C. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.
- D. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
- E. Conditions existing at time of inspection for bidding will be maintained by Owner as far as practical.
 - 1. A roof moisture survey of existing roofing system is available for Contractor's reference.
 - 2. The results of an analysis of test cores from existing roofing system are available for Contractor's reference.

3. Construction Drawings for existing roofing system are provided for Contractor's convenience and information, but they are not a warranty of existing conditions. They are intended to supplement rather than serve in lieu of Contractor's own investigations. Contractor is responsible for conclusions derived from existing documents.
- F. Limit construction loads on existing roof areas to remain, and existing roof areas scheduled to be reroofed to **300lbs. maximum** for rooftop equipment wheel loads and **20 psf maximum** for uniformly distributed loads.
- G. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.
 1. Remove only as much roofing in one day as can be made watertight in the same day.
- H. Hazardous Materials: It is not expected that hazardous materials, such as asbestos-containing materials, will be encountered in the Work.
 1. Existing roof will be left no less watertight than before removal.
 2. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.

1.9 WARRANTY

- A. Existing Warranties: None

PART 2 - PRODUCTS

2.1 TEMPORARY PROTECTION MATERIALS

- A. EPS Insulation: ASTM C 578.
- B. Plywood: DOC PS 1, Grade CD, Exposure 1.
- C. OSB: DOC PS 2, Exposure 1.

2.2 TEMPORARY ROOFING MATERIALS

- A. Design and selection of materials for temporary roofing are Contractor's responsibilities.
- B. Sheathing Paper: Red-rosin type, minimum 3 lb/100 sq. ft. (0.16 kg/sq. m).
- C. Base Sheet: ASTM D 4601/D 4601M, Type II, nonperforated, asphalt-impregnated and -coated, glass-fiber sheet.

- D. Glass-Fiber Felts: ASTM D 2178/D 2178M, Type IV, asphalt-impregnated, glass-fiber felt.
- E. Asphalt Primer: ASTM D 41/D 41M.
- F. Roofing Asphalt: ASTM D 312/D 312M, Type III or IV.
- G. Base Sheet Fasteners: Capped head, factory-coated steel fasteners, listed in FM Approvals' RoofNav.

2.3 INFILL AND REPLACEMENT MATERIALS

- A. Use infill materials matching existing roofing system materials unless otherwise indicated.
 - 1. Infill materials are specified in Section 075419 "Polyvinyl-Chloride (PVC) Roofing"
- B. Steel deck is specified in Section 053100 "Steel Decking."
- C. Wood blocking, curbs, and nailers are specified in Section 061053 Miscellaneous Rough Carpentry."
- D. Fasteners: Factory-coated steel fasteners with metal or plastic plates listed in FM Approvals' RoofNav, and acceptable to new roofing system manufacturer.

2.4 AUXILIARY REROOFING MATERIALS

- A. General: Use auxiliary reroofing preparation materials recommended by roofing system manufacturer for intended use and compatible with components of new roofing system.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protection of In-Place Conditions:
 - 1. Protect existing roofing system that is not to be reroofed.
 - 2. Loosely lay 1-inch- minimum thick, EPS insulation over existing roofing in areas not to be reroofed.
 - a. Loosely lay 15/32-inch plywood or OSB panels over EPS. Extend EPS past edges of plywood or OSB panels a minimum of 1 inch .
 - 3. Limit traffic and material storage to areas of existing roofing that have been protected.
 - 4. Maintain temporary protection and leave in place until replacement roofing has been completed. Remove temporary protection on completion of reroofing.

5. Comply with requirements of existing roof system manufacturer's warranty requirements.
- B. Seal or isolate windows that may be exposed to airborne substances created in removal of existing materials.
- C. Shut off rooftop utilities and service piping where they interfere with the Work.
- D. Test existing roof drains to verify that they are not blocked or restricted.
 1. Immediately notify Architect of any blockages or restrictions.
- E. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work.
 1. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
- F. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.
- G. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday.
 1. Prevent debris from entering or blocking roof drains and conductors.
 - a. Use roof-drain plugs specifically designed for this purpose.
 - b. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.
 2. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new roofing system, provide alternative drainage method to remove water and eliminate ponding.
 - a. Do not permit water to enter into or under existing roofing system components that are to remain.

3.2 ROOF TEAR-OFF

- A. Notify Owner each day of extent of roof tear-off proposed for that day and obtain authorization to proceed.
- B. Lower removed roofing materials to ground and onto lower roof levels, using dust-tight chutes or other acceptable means of removing materials from roof areas.
- C. Full Roof Tear-off: Remove existing roofing and other roofing system components down to the existing roof deck.
 1. Remove roof insulation.
 2. Remove base flashings and counter flashings.

3. Remove perimeter edge flashing and gravel stops.
4. Remove copings.
5. Remove expansion-joint covers.
6. Remove flashings at pipes, curbs, mechanical equipment, and other penetrations.
7. Remove roof drains indicated on Drawings to be removed.
8. Remove wood blocking, curbs, and nailers, which have deteriorated.

9. Remove excess asphalt from steel deck.
 - a. A maximum of 15 lb/100 sq. ft. of asphalt is permitted to remain on steel decks.
10. Remove fasteners from deck or cut fasteners off slightly above deck surface.

3.3 DECK PREPARATION

- A. Inspect deck after tear-off of roofing system.
- B. If broken or loose fasteners that secure deck panels to one another or to structure are observed, or if deck appears or feels inadequately attached, immediately notify Owner.
 1. Do not proceed with installation until directed by Owner.
- C. If deck surface is unsuitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Owner.
 1. Do not proceed with installation until directed by Owner.
- D. Replace steel deck as directed by Owner.
 1. Deck overlay or replacement is specified in Section 053100 "Steel Decking".
- E. Prepare and paint steel deck surface.
 1. Painting and preparation for painting is specified in Section 099113 "Exterior Painting."

3.4 INFILL MATERIALS INSTALLATION

- A. Immediately after roof tear-off, and inspection and repair, if needed, of deck, fill in tear-off areas to match existing roofing system construction.
 1. Installation of infill materials is specified in Section 075419 "Polyvinyl-Chloride (PVC) Roofing."
 2. Installation of wood blocking, curbs, and nailers is specified in Section 061053 "Miscellaneous Rough Carpentry."
- B. Install new roofing patch over roof infill area.

1. If new roofing is installed the same day tear-off is made, roofing patch is not required.

3.5 TEMPORARY ROOFING

- A. Prepare temporary roof to receive new roofing by patching and repairing temporary roofing.
 1. Restore temporary roofing to watertight condition.
 2. Obtain approval for temporary roof substrate from roofing manufacturer and Architect before installing new roof.

3.6 BASE FLASHING REMOVAL

- A. Remove existing base flashings.
 1. Clean substrates of contaminants, such as asphalt, sheet materials, dirt, and debris.
- B. Do not damage metal counterflashings that are to remain.
 1. Replace metal counterflashings damaged during removal with counterflashings specified in Section 076200 "Sheet Metal Flashing and Trim."
- C. Inspect parapet sheathing, wood blocking, curbs, and nailers for deterioration and damage.
 1. If parapet sheathing, wood blocking, curbs, or nailers have deteriorated, immediately notify Owner.
- D. When directed by Architect, replace parapet framing, wood blocking, curbs, and nailers to comply with Section 061053 Miscellaneous Rough Carpentry."

3.7 FASTENER PULL-OUT TESTING

- A. Perform fastener pull-out tests according to ANSI/SPRI FX-1, and submit test report to Owner and roofing manufacturer before installing new roofing system.
 1. Obtain roofing manufacturer's approval to proceed with specified fastening pattern.
 - a. Roofing manufacturer may furnish revised fastening pattern commensurate with pull-out test results.

3.8 DISPOSAL

- A. Collect demolished materials and place in containers.
 1. Promptly dispose of demolished materials.
 2. Do not allow demolished materials to accumulate on-site.

3. Storage or sale of demolished items or materials on-site is not permitted.
- B. Transport and legally dispose of demolished materials off Owner's property.

END OF SECTION 070150.19

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SECTION 075419 - POLYVINYL-CHLORIDE (PVC) ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Adhered polyvinyl chloride (PVC) roofing system.
 - 2. Induction welded polyvinyl chloride (PVC) roofing system.
 - 3. Roof insulation.
 - 4. Walkways.
- B. Section includes installation of sound-absorbing insulation strips in ribs of roof deck. Sound-absorbing insulation strips are furnished under Section 053100 "Steel Decking."
- C. Related Requirements:
 - 1. Section 053100 "Steel Decking" for steel deck repairs.
 - 2. Section 061053 "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking;
 - 3. Section 07150.19 "Preparation for Reroofing" for selective demolition of the existing roofing.
 - 4. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
 - 5. Section 077200 "Roof Accessories" for roof hatch and safety railings.
 - 6. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D1079 and glossary in NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to work of this Section.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Roofing Conference: Conduct conference at Project site.

1. Meet with Owner and Architect, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, sealant Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after reroofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 1. For insulation and roof system component fasteners, include copy of FM Approvals' RoofNav listing and Florida Product Approval.
- B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:
 1. Layout and thickness of insulation.
 2. Base flashings and membrane terminations.
 3. Flashing details at penetrations.
 4. Roof plan showing orientation of steel roof deck and orientation of roof membrane, fastening spacings, and patterns for mechanically fastened roofing system.
 5. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
- C. Samples for Verification: For the following products:
 1. Roof membrane and flashing, of color required.
 2. Walkway pads or rolls, of color required.
- D. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.
- B. Manufacturer Certificates:
 - 1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - a. Submit evidence of compliance with performance requirements.
 - 2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.
- C. Product Test Reports: For roof membrane and insulation, tests performed by independent qualified testing agency indicating compliance with specified requirements.
- D. Evaluation Reports: For components of roofing system, from ICC-ES.
- E. Field Test Reports:
 - 1. Fastener-pullout test results and manufacturer's revised requirements for fastener patterns.
- F. Field quality-control reports.
 - 1. Two copies each of manufacturer's technical representative's log for each visit.
- G. Sample Warranties: For manufacturer's special warranties.
- H. Manufactures installation instructions.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Owner retains right to reject any manufacturer.
 - 1. Evidence of compliance with Experience Record and Qualifications paragraph below.
 - 2. Copy of sample warranty that meets the requirements of the "Warranty" article in Section 1.
 - 3. Evidence of financial stability acceptable to Owner.
 - 4. Evidence of compliance with "Single Installer" requirement.

B. Experience Record and Qualifications:

1. Acceptable field history consists of successful performance of five (5) installations in place over the previous five (5) years with similar materials and project size. Include sketches, photos, and references for each installation.

C. Installer Qualifications: An employer of workers, including superintendent for this project, trained and approved by manufacturer.

D. Certifications

1. Provide reports to Owner detailing maintenance activities have been performed in accordance with written maintenance agreement for roofing.
2. Materials shall be compatible with materials or related Work with which they come into contact and the related materials sections.
3. Manufacturer/Applicator: Review and approve all details before construction. Confirm in writing to Owner.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.11 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
 - 1. Special warranty includes roof membrane, base flashings, roof insulation, fasteners, and other components of roofing system.
 - 2. Warranty Period: No Dollar Limit, 20 years from date of Substantial Completion.
 - 3. Wind Rider Application: Contractor shall coordinate with Engineer to submit project-specific application for wind rider approval (for coverage of storm/wind speed events in excess of 60 mph, actual wind speed approved will vary based on project location and conditions) for the proposed roof system assembly of the selected roofing manufacturer.
- B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of roofing system such as roof membrane, base flashing, roof insulation, fasteners, and walkway products for the following warranty period:
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. A single Installer shall be responsible for providing complete roofing system. Obtain all roofing materials through one source from a single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roof system and flashings shall remain watertight.
 - 1. Accelerated Weathering: Roof membrane shall withstand 2000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
 - 2. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D3746, ASTM D4272/D4272M, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.
- C. Wind Uplift Resistance: Design roofing system to resist the following wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897:

1. Zone 1' (Roof Area Field Prime): 19 lbf/sq. ft.
2. Zone 1 (Roof Area Field): 47 lbf/sq. ft.
3. Zone 2 (Roof Area Perimeter): 66 lbf/sq. ft.
4. Zone 3 (Roof Area Corners): 113 lbf/sq. ft.

- D. Energy Performance: Roofing system shall have a three-year aged solar reflectance of 0.55 and a 3-year aged thermal emittance of 0.75 when tested according to ASTM C1549, ASTM E903, ASTM E1918 or CRRC-1.
- E. Exterior Fire-Test Exposure: ASTM E108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- F. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.3 POLYVINYL CHLORIDE (PVC) ROOFING

- A. Induction Welded at Roof Areas A, B, C, D, E, F & G:

PVC Sheet: ASTM D4434/D4434M, Type III, fabric reinforced.

1. Thickness: 60 mils, as established by ASTM D7635
2. Exposed Face Color: White
3. Manufactures:
 - a. Siplast: Parasolo PVC KEE
 - b. Soprema: Sentinel PVC P150
 - c. Duro-Last: Duro-Tuff 60-Mil
 - d. Equivalent products by other manufacturers and approved by Owner.

- B. Source Limitations: Obtain components for roofing system from roof membrane manufacturer or manufacturers approved by roof membrane manufacturer.

2.4 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.
1. Adhesives and Sealants: Comply with VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as PVC sheet.
- C. Prefabricated Pipe Flashings: Not applicable.

- D. Liquid Applied Reinforced Flashing: manufactures standard catalyzed, polymethyl methacrylate (PMMA) resin with polyester reinforcing fleece fabric fully embedded in the resin to form fully-reinforced waterproofing membrane flashings.
 - 1. Comply with VOC limits of authorities having jurisdiction.
- E. Bonding Adhesive: Manufacturer's standard.
- F. Low-Rise, Urethane, Fabric-Backed Membrane Adhesive: Roof system manufacturer's standard spray-applied, low-rise, two-component urethane adhesive formulated for compatibility and use with fabric-backed membrane roofing.
- G. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
- H. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roofing components to substrate, and acceptable to roofing system manufacturer.
- I. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.5 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured by PVC roof membrane manufacturer, approved for use in Florida Product Approval listed roof assemblies.
- B. Polyisocyanurate Board Insulation: ASTM C1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
 - 1. Compressive Strength: 20 psi
 - 2. Size: 4x4 ft. or 4 x 8ft. boards
 - 3. Induction Welded at Roof Areas A, B, C, D, E, F & G:
 - a. No minimum R-value required. Provide tapered insulation.
- C. Glass-Fiber Blanket, Unfaced: ASTM C665, Type I; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E84; passing ASTM E136 for combustion characteristics.
- D. Tapered Insulation: Provide factory-tapered insulation boards.
 - 1. Material: Match roof insulation.
 - 2. Minimum Thickness: 1/4 inch (6.35 mm).
 - 3. Slope:

- a. Saddles and Crickets: 1/2 inch per foot (1:24) unless otherwise indicated on Drawings.

2.6 INSULATION ACCESSORIES

- A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with other roofing system components.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
- C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:
 - 1. Modified asphaltic, asbestos-free, cold-applied adhesive.
 - 2. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.
 - 3. Full-spread, spray-applied, low-rise, two-component urethane adhesive.

2.7 WALKWAYS

- A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads, approximately 3/16 inch thick and acceptable to roofing system manufacturer.
 - 1. Size: Approximately 36 by 60 inches.
 - 2. Color: Gray.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
 - 1. Verify the condition of roof openings and penetrations, curbs, and roof-drain bodies are acceptable for a roofing system attachment.
 - 2. Verify the condition of wood blocking, curbs, and nailers are solid and moisture free and that nailers match thicknesses of insulation.
 - 3. Verify the condition of steel roof deck complies with requirements in Section 053100 "Steel Decking."
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing system installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Perform fastener-pullout tests according to roof system manufacturer's written instructions.
 - 1. Submit test result within 24 hours of performing tests.
 - a. Include manufacturer's requirements for any revision to previously submitted fastener patterns required to achieve specified wind uplift requirements.

3.3 INSTALLATION OF ROOFING, GENERAL

- A. Do not begin installation without the presence of the roofing manufacturer's representative.
- B. Install roofing system according to roofing system manufacturer's written instructions, FM Approvals' RoofNav assembly requirements, and FM Global Property Loss Prevention Data Sheet 1-29.
- C. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.
- D. Install roof membrane and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition.

3.4 INSTALLATION OF INSULATION

- A. Coordinate installing roofing system components, so insulation is not exposed to precipitation or left exposed at end of workday.
- B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Installation Over Metal Decking:
 - 1. Install base layer of insulation with joints staggered not less than 24 inches (610 mm) in adjacent rows.
 - a. Locate end joints over crests of decking.

- b. Where installing composite and non-composite insulation in two or more layers, install non-composite board insulation for bottom layer and intermediate layers, if applicable, and install composite board insulation for top layer.
 - c. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
 - d. Make joints between adjacent insulation boards not more than 1/4 inch (6 mm) in width.
 - e. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches (610 mm).
 - 1) Trim insulation so that water flow is unrestricted.
 - f. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - g. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
 - h. Mechanically attach base layer of insulation using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to metal decks.
 - 1) Fasten insulation according to requirements in FM Approvals' RoofNav for specified Windstorm Resistance Classification.
 - 2) Fasten insulation to resist specified uplift pressure at corners, perimeter, and field of roof.
2. Install upper layers of insulation with joints of each layer offset not less than 12 inches (305 mm) from previous layer of insulation.
- a. Staggered end joints within each layer not less than 24 inches (610 mm) in adjacent rows.
 - b. Install with long joints continuous and with end joints staggered not less than 12 inches (305 mm) in adjacent rows.
 - c. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
 - d. Make joints between adjacent insulation boards not more than 1/4 inch (6 mm) in width.
 - e. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches (610 mm).
 - f. Trim insulation so that water flow is unrestricted.
 - g. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - h. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
 - i. Adhere each layer of insulation to substrate using adhesive according to FM Approvals' RoofNav assembly requirements and FM Global Property Loss Prevention Data Sheet 1-29 for specified Windstorm Resistance Classification, as follows:

- 1) Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
- 2) Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.5 INSTALLATION OF ADHERED ROOFING

- A. Adhere roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.
- B. Unroll roof membrane and allow to relax before installing.
- C. Start installation of roofing in presence of roofing system manufacturer's technical personnel and Owner's testing and inspection agency.
- D. Accurately align roof membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- E. Bonding Adhesive: Apply to substrate and underside of roof membrane at rate required by manufacturer and allow to partially dry before installing roof membrane. Do not apply to splice area of roof membrane.
- F. Fabric-Backed Roof Membrane Adhesive: Apply to substrate at rate required by manufacturer and install fabric-backed roof membrane.
- G. In addition to adhering, mechanically fasten roof membrane securely at terminations, penetrations, and perimeter of roofing.
- H. Apply roof membrane with side laps shingled with slope of roof deck where possible.
- I. Seams: Clean seam areas, overlap roofing, and hot-air weld side and end laps of roof membrane and sheet flashings to ensure a watertight seam installation.
 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roof membrane and sheet flashings.
 2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
 3. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.
- J. Spread sealant bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.

3.6 INSTALLATION OF MECHANICALLY FASTENED ROOFING

- A. Follow product data sheets and published detail requirements for additional installation instructions.

- B. Ensure environmental conditions are satisfactory, and will remain satisfactory, during the application.
- C. Install fasteners and induction welding plates as required for wind uplift requirements.
- D. Install fasteners and plates that can be induction welded each day.
- E. Unroll roof membrane and allow to relax and remove all wrinkles before installing.
- F. For in-splice attachment, install roof membrane with long dimension perpendicular to steel roof deck flutes.
- G. Start installation of roofing in presence of roofing system manufacturer's technical personnel and Owner's testing and inspection agency.
- H. Accurately align roof membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- I. Seams: Clean seam areas, overlap roof membrane, and hot-air weld side and end laps of roof membrane and sheet flashings to ensure a watertight seam installation.
 - 1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roof membrane and sheet flashings.
 - 2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
 - 3. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.
- J. Locate all plates beneath the PVC membrane. Center the induction welder over the plate and activate the induction welding equipment. Do not move the induction welder during the welding cycle.
- K. Once the weld is complete, place the magnets centered on the plate within 3 seconds of welding, allow sufficient time for the plate to cool before removing the magnet.
- L. At the end of the sheet where it terminates at roof edges, walls and curbs, fasten the perimeter of the membrane with appropriate fasteners and seam plates to the deck or vertical surface at the base of the upstand.
- M. Where necessary, use a hot-air welder to ensure all laps are fully sealed.
- N. Inspect the installation each day to ensure the membrane is welded to each plate.
- O. Apply roof membrane with side laps shingled with slope of roof deck where possible.
- P. Spread sealant bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.
- Q. Probe all seams/laps once the hot air welds have thoroughly cooled.

- R. Repair all seam deficiencies the same day they are discovered.

3.7 INSTALLATION OF BASE FLASHING

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.8 INSTALLATION OF LIQUID FLASHING

- A. Using masking tape, mask the perimeter of the area to receive the flashing system. Apply resin primer to substrates requiring additional preparation and allow primer to cure.
- B. Pre-cut fleece to ensure a proper fit at transitions and corners prior to membrane application.
- C. Apply an even, generous base coat of flashing resin to prepared surfaces using a roller at the rate specified by the resin manufacturer. Work the fleece into the wet, catalyzed resin using a brush or roller to fully embed the fleece in the resin and remove trapped air. Lap fleece layers a minimum of 2 inch and apply an additional coat of catalyzed resin between layers of overlapping fleece. Again, using a roller, apply an even top coat of catalyzed resin immediately following embedment of the fleece at the rate specified by the resin manufacturer, ensuring that the fleece is fully saturated. Ensure that the flashing resin is applied to extend beyond the fleece (maximum ¼-inch). Remove the tape before the catalyzed resin cures. Make allowances for waste, including saturation of roller covers and application equipment.
- D. Should work be interrupted for more than 12 hours or the surface of the cured resin becomes dirty or contaminated by the elements, wipe the surface to be lapped with new flashing resin using the specified cleaner/solvent. Allow the surface to dry for a minimum 20 minutes and a maximum 60 minutes before continuing work.

3.9 INSTALLATION OF WALKWAYS

- A. Flexible Walkways: Install walkway products according to manufacturer's written instructions.
 - 1. Install flexible walkways at the following locations:

- a. Perimeter of each rooftop unit.
 - b. Between each rooftop unit location, creating a continuous path connecting rooftop unit locations.
 - c. Between each roof hatch and each rooftop unit location or path connecting rooftop unit locations.
 - d. Top and bottom of each roof access ladder.
 - e. Between each roof access ladder and each rooftop unit location or path connecting rooftop unit locations.
 - f. Locations indicated on Drawings.
 - g. As required by roof membrane manufacturer's warranty requirements.
2. Provide 6-inch (76-mm) clearance between adjoining pads.
 3. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.10 FIELD QUALITY CONTROL

A. Perform the following tests:

1. Low-Voltage Electrical Conductance Testing: Testing agency shall survey entire roof area and flashings to locate discontinuity in the roof membrane using an exposed metal electrical loop to create an electrical field tested with handheld probes or a scanning platform with integral perimeter electrical loops creating a complete electrical field.
 - a. Perform tests before overlying construction is placed.
 - b. After testing, repair areas of discontinuities, repeat tests, and make further repairs until roofing and flashing installations are contiguous.
 - 1) Cost of retesting is Contractor's responsibility.
 - c. Testing agency shall prepare survey report indicating locations of initial discontinuities, if any.

- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion, in presence of Architect, and to prepare inspection report.
- C. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.
- D. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.11 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing system for

deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.12 ROOFING INSTALLER'S WARRANTY

A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:

- 1. Owner:
- 2. Address:
- 3. Building Name/Type:
- 4. Address: .
- 5. Area of Work:
- 6. Acceptance Date: _____.
- 7. Warranty Period:
- 8. Expiration Date: _____.

B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period Roofing Installer will, at Roofing Installer's own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

D. This Warranty is made subject to the following terms and conditions:

- 1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
 - a. lightning;
 - b. peak gust wind speed exceeding 60 mph;
 - c. fire;
 - d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
 - e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;

- f. vapor condensation on bottom of roofing; and
 - g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
- 2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
 - 3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
 - 4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
 - 5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
 - 6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
 - 7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____.

- 1. Authorized Signature: _____.
- 2. Name: _____.
- 3. Title: _____.

END OF SECTION 075419

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes sheet metal flashing and trim in the following categories:
 - 1. Counterflashing.
 - 2. Coping cap.
 - 3. Metal Flashing.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 07 Section "Polyvinyl-Chloride (PVC) Roofing" for flashing and roofing accessories installed integral with roofing membrane as part of roofing-system work.
 - 2. Division 07 Section "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 PERFORMANCE REQUIREMENTS

- A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing.

1.4 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data including manufacturer's material and finish data, installation instructions, and general recommendations for each specified flashing material and fabricated product.
 - 1. ES-1 Certification Certificate for edge metal conditions.
- C. Shop Drawings of each item specified showing layout, profiles, methods of joining, and anchorage details. Provide documentation of ANSI-SPRI ES-1 metal profile compliance.
- D. Samples: Contractor shall provide color samples of sheet metal edge profiles, to allow for approval of color and finish by Owner and Engineer, provide sample size at minimum of 6 inches in material width (each).

- E. Mock-ups: Mock-up of sheet metal edge condition, minimum one mock-up per metal profile detail type, minimum dimension of 24 inches in total length, including all applicable accessory materials, such as underlayment, cleat, fasteners. If mock-up condition is accepted by the Engineer and roof manufacturer, mock-up area shall be considered a part of the finished assembly.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experience Installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

1.6 PROJECT CONDITIONS

- A. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weather resistance, durability of Work, and protection of materials and finishes.

1.7 WARRANTY

- A. Provide manufacturer's warranty including the metal edge systems with the total roofing system warranty.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Provide ANSI-SPRI ES-1 rated metal edge details (all roof edges and copings) for the project, tested in accordance with specified wind uplift pressures. Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for other applicable dimensional and fabrication information.
- C. Design Pressure: As indicated on Drawings Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
- D. Temperature Change: 120 deg F ambient; 180 deg F material surfaces.

2.2 METALS

- A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Kynar Coated Aluminum:
 - 1. Counterflashing, drip edges, equipment support flashing, and roof-penetration flashing.
 - a. Thickness: Not less than .032 inches
 - b. Colors: Selected by the Architect from the Manufactures full range.
 - 2. Coping:
 - a. Material: Formed Aluminum Sheet
 - b. Surface: Smooth finish
 - c. Thickness: Not less than 0.040 inches
 - d. Colors: Selected by the Architect from the Manufactures full range.
 - 3. Cleat:
 - a. Thickness: Not less than .050 inches
 - b. Colors: Selected by the Architect from the Manufactures full range.

2.3 MISCELLANEOUS MATERIALS AND ACCESSORIES

- A. Fasteners: Same metal as sheet metal flashing or other noncorrosive metal as recommended by sheet metal manufacturer. Match finish of exposed heads with material being fastened.
- B. Mastic Sealant: Polyisobutylene; nonhardening, non-skinning, nondrying, nonmigrating sealant for roofing applications.
- C. Elastomeric Sealant: Generic type recommended by sheet metal manufacturer and fabricator of components being sealed and complying with requirements for joint sealants as specified in Division 7 Section "Joint Sealants."
- D. Adhesives: Type recommended by flashing sheet metal manufacturer for waterproof and weather-resistant seaming and adhesive application of flashing sheet metal.

2.4 FABRICATION, GENERAL

- A. Sheet Metal Fabrication Standard: Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.
- B. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

- C. Form exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.
- D. Expansion Provisions: Space movement joints at maximum of 10 ft with no joints allowed within 24 in. of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 in. deep, filled with mastic sealant (concealed within joints).
- E. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
- F. Separate metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.
- G. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.
- H. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, noncorrosive metal recommended by sheet metal manufacturer.
 - 1. Size: As recommended by SMACNA manual or sheet metal manufacturer for application but never less than thickness of metal being secured.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that Work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Unless otherwise indicated, install sheet metal flashing and trim to comply with performance requirements, manufacturer's installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Anchor units of Work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install Work with laps, joints, and seams that will be permanently watertight and weatherproof.
- B. Install exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

- C. Expansion Provisions: Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10 ft with no joints allowed within 24 in. of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 in. deep, filled with mastic sealant (concealed within joints).
- D. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with sealant and form metal to completely conceal sealant.
 - 1. Use joint adhesive for nonmoving joints specified not to be soldered.
- E. Separations: Separate metal from noncompatible metal or corrosive substrates by coating concealed surfaces, at locations of contact, with asphalt mastic or other permanent separation as recommended by manufacturer.
 - 1. Underlayment: Where installing stainless steel or aluminum directly on cementitious or wood substrates, install a slip sheet of red-rosin paper and a course of polyethylene underlayment.
 - 2. Bed flanges of Work in a thick coat of roofing cement where required for waterproof performance.
- F. Counterflashings: Coordinate installation of counterflashings with installation of assemblies to be protected by counterflashing. Install counterflashings in reglets or receivers. Secure in a waterproof manner by means of snap-in installation and sealant, lead wedges and sealant, interlocking folded seam, or blind rivets and sealant. Lap counterflashing joints a minimum of 2 in. and bed with sealant.
- G. Equipment Support Flashing: Coordinate equipment support flashing installation with roofing and equipment installation. Weld or seal flashing to equipment support member.
- H. Roof-Penetration Flashing: Coordinate roof-penetration flashing installation with roofing and installation of items penetrating roof. Install flashing as follows:
 - 1. Seal and clamp flashing to pipes penetrating roof, other than lead flashing on vent piping.

3.3 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.
- B. Provide final protection and maintain conditions that ensure sheet metal flashing and trim Work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.

END OF SECTION 076200

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SECTION 079236 – ARCHITECTURAL JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Urethane joint sealants.

1.3 PRE-INSTALLATION MEETINGS

- A. Pre-installation Conference: Conduct conference at [Project site] <Insert location>.

1.4 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- D. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Product Test Reports: For each kind of joint sealant, for tests performed by [manufacturer and witnessed by a qualified testing agency] [a qualified testing agency].

- C. Preconstruction Laboratory Test Schedule: Include the following information for each joint sealant and substrate material to be tested:
 - 1. Joint-sealant location and designation.
 - 2. Manufacturer and product name.
 - 3. Type of substrate material.
 - 4. Proposed test.
 - 5. Number of samples required.

- D. Preconstruction Laboratory Test Reports: From sealant manufacturer, indicating the following:
 - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
 - 2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.

- E. Preconstruction Field-Adhesion-Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.

- F. Field-Adhesion-Test Reports: For each sealant application tested.

- G. Sample Warranties: For special warranties.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

- B. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

- C. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

1.7 PRECONSTRUCTION TESTING

- A. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:
 - 1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
 - 2. Conduct field tests for each kind of sealant and joint substrate.
 - 3. Notify Architect seven days in advance of dates and times when test joints will be erected.

4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
 - a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1.1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - 1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.8 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.9 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Five years from date of Substantial Completion.
- B. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 2. Disintegration of joint substrates from causes exceeding design specifications.
 3. Mechanical damage caused by individuals, tools, or other outside agents.

4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: [As indicated by manufacturer's designations] [Match Architect's samples] [As selected by Architect from manufacturer's full range].

2.2 ELASTOMERIC JOINT SEALANTS

- A. Urethane, S, NS, 25, NT: Single-component, non-sag, non-traffic-use, plus 25 percent and minus 25 percent movement capability, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BASF Corporation-Construction Systems.
 - b. Pecora Corporation.
 - c. Sherwin-Williams Company (The).
 - d. Sika Corporation.
 - e. Tremco Incorporated.

2.3 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Non-staining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. BASF Corporation-Construction Systems.
 - b. Construction Foam Products; a division of Nomaco, Inc.

- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Remove laitance and form-release agents from concrete.

3. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:

a. Metal.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Non-sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.
4. Provide flush joint profile at [locations indicated on Drawings] <Insert locations> according to Figure 8B in ASTM C 1193.
5. Provide recessed joint configuration of recess depth and at [locations indicated on Drawings] <Insert locations> according to Figure 8C in ASTM C 1193.
 - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:

1. Extent of Testing: Test completed and cured sealant joints as follows:
 - a. Perform 10 tests for the first 500 feet of joint length for each kind of sealant and joint substrate.
2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
3. Inspect tested joints and report on the following:
 - a. Whether sealants filled joint cavities and are free of voids.
 - b. Whether sealant dimensions and configurations comply with specified requirements.
 - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.
4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other

requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces.
 - 1. Joint Locations:
 - a. Counterflashing and coping joints.
 - b. Other joints as indicated on Drawings.
 - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 079236

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SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following exterior substrates:
 - 1. Steel roof decking.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 2. Indicate VOC content.
- B. Samples for Verification: For each type of paint system and each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches (200 mm) square.
 - 2. Apply coats on Samples in steps to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- C. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.4 QUALITY ASSURANCE

- A. MPI Standards:
 - 1. Products: Complying with MPI standards indicated and listed in "MPI Approved Products List."
 - 2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.
 - 3. Final approval of color selections will be based on benchmark samples.

- a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by Owner at no added cost to Owner.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Benjamin Moore & Co.
 - 2. Sherwin-Williams Company (The).

2.2 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- C. Colors: As selected by Owner from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- C. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- C. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:
 - 1. SSPC 2.
 - 2. SSPC 3.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 - 3. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 4. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

- B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 FIELD QUALITY CONTROL

- A. Wet Film Thickness Testing: Contractor to test a regular interval the wet film thickness of the paint.
 - 1. If test results show that wet film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Owner, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

- A. Basis of Design: Subject to compliance with requirements, provide the following products or equivalent product from acceptable manufacturers listed.
- B. Steel Roof Decking:
 - 1. Alkyd System MPI EXT 5.1D:
 - a. Prime Coat: Primer, alkyd, anticorrosive, for metal, MPI #79.
 - 1) Benjamin Moore; Super Spec HP – Alkyd Metal Primer.
 - 2) Sherwin-Williams; Protective & Marine - Kem Kromik Universal Primer.
 - 3) Equivalent products by other manufacturers and approved by Owner.
 - b. Topcoat: Alkyd, exterior, gloss (MPI Gloss Level 6), MPI #9.

HILLSBOROUGH COUNTY AVIATION AUTHORITY PROJECT SPECIFICATION

- 1) Benjamin Moore; Corotech - Alkyd Gloss Enamel.
- 2) Sherwin-Williams; Protective & Marine - Seaguard 1000 Marine.
- 3) Equivalent products by other manufacturers and approved by Owner.

END OF SECTION 099113

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SECTION 264113 - LIGHTNING PROTECTION FOR STRUCTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes lightning protection system for the structure.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Include layouts of the lightning protection system, with details of the components to be used in the installation.
 - 2. Include raceway locations needed for the installation of conductors.
 - 3. Details of air terminals, ground rods, ground rings, conductor supports, splices, and terminations, including concealment requirements.
 - 4. Include roof attachment details, coordinated with roof installation.
 - 5. Calculations required by NFPA 780 for bonding of metal bodies.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Lightning protection system Shop Drawings, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Lightning protection cabling attachments to roofing systems and accessories.
 - 2. Lightning protection strike termination device attachment to roofing systems, coordinated with the roofing system manufacturer.
 - 3. Lightning protection system components penetrating roofing and moisture protection systems and system components, coordinated with the roofing system manufacturer.
- B. Qualification Data: For Installer.
- C. Product Certificates: For each type of roof adhesive for attaching the roof-mounted air terminal assemblies, approved by the roofing-material manufacturer.

- D. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Completion Certificate:
 - 1. Limited Scope: UL Master Label Certificate or LPI Master Certificate.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: UL-listed installer, category OWAY or LPI Master Installer.
- B. Materials: Materials will be listed and labeled in accordance with Underwriters' Laboratories, Inc. (UL) Standard 96, current edition.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. NFPA Lightning Protection Standard: Comply with NFPA 780 requirements for Class II buildings.
- B. UL Lightning Protection Standard: Comply with UL 96A requirements for Class II buildings.
- C. Lightning Protection Components, Devices, and Accessories: Listed and labeled by a qualified testing agency as complying with UL 96, and marked for intended location and application.

2.2 MATERIALS

- A. Roof-Mounting Air Terminals: NFPA 780, Class II, aluminum.
- B. System to consist of air terminals, interconnecting conductors, down conductors, grounding, bonding, and surge protection complete per current NFPA 780 requirements to appear as a part of the building.
- C. Class I materials shall be used for systems on structures not exceeding 75 feet in height and Class II materials shall be used for systems on structures exceeding 75 feet above grade.
- D. Copper shall be of the grade ordinarily required for commercial electrical work, generally designated as being 95 percent conductive when annealed. Aluminum conductors shall be of electrical grade aluminum.
- E. Lightning protection materials shall be coordinated with building construction materials to assure compatibility. Aluminum lightning protection materials shall not be embedded in concrete or masonry, installed on or below copper surfaces, or used where contact with the

earth is possible terminating 18" above grade level minimum. Copper lightning protection materials shall not be installed on aluminum surfaces. Copper system components within 2 feet of chimney exhausts shall be tin coated to protect against deterioration.

- F. Strike termination devices shall be provided to place the entire structure under a zone of protection as defined by the Standards. Air terminals shall project a minimum of 10 inches above protected areas or objects. Air terminals shall be located within 2 feet of exposed corners and roof edges.
- G. Metallic bodies having a thickness 3/16" or greater may serve as strike termination devices without the addition of air terminals. These bodies shall be made a part of the lightning protection system by connection(s) according to the Standards using main size conductors and bonding fittings with 3 square inches of surface contact area.
- H. Cable conductors shall provide a two-way path from strike termination devices horizontally and downward to connections with the ground system. Cable conductors shall be free of excessive splices and sharp bends. No bend of a conductor shall form a final included angle of less than 90 degrees nor have a radius of bend less than 8 inches. Structural elements and design features shall be used whenever possible to minimize the visual impact of exposed conductors.
- I. Grounding system and down conductor materials determined to meet the overall design requirements shall remain in place during reroofing and be interconnected with new lightning protection system elements on the roof areas. In the case of structural steel frame construction, roof conductors shall be connected to the structural steel frame at intervals averaging not more than 100 feet around the protected perimeter of the structure.
- J. When additional cable down conductors are required, cable down conductors may be concealed within the building construction or enclosed within PVC conduit from roof to grade level. Where exposed down conductors are subject to environmental hazards at grade level, guards shall be used to protect the conductor to a point 6 feet above grade.
- K. Ground terminations suitable for the soil conditions shall be provided for each new downlead conductor required to meet design requirements.
- L. Exposed cable conductors shall be secured to the structure at intervals not exceeding 3 feet – 0 inches. Fasteners, nails, screws, or bolts shall be of suitable configuration for the intended application and of the same material as the conductor or of electrolytically compatible materials. Galvanized or plated steels are not acceptable.
- M. Connectors and splicers shall be of suitable configuration and type for the intended application and of the same material as the conductors or of electrolytically compatible materials.
- N. Common interconnection of all grounded systems within the building using main size conductors at grade level shall be verified. Grounded metal bodies located within the calculated bonding distance as determined by the formulas of the Standards shall be bonded to the system using properly sized bonding conductors.

- O. The Owner shall verify the location and condition of surge protection for each service entrance of power, communication, and antenna systems. Surge protection shall be provided at every system entrance to the structure to prevent massive lightning over voltages from entering the structure. Additional surge protection for internal electronic equipment may be determined through cost-benefit analysis by a trained engineer. Proper protection for communication systems entrances shall be coordinated with the communications system supplier.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install lightning protection components and systems according to UL 96A, NFPA 780 and LPI 175.
- B. The installation of the lightning protection system components shall be done in a neat and workmanlike manner.
- C. Install conductors with direct paths from air terminals to ground connections. Avoid bends less than 90 degrees and 8 inches in radius and narrow loops.
- D. Roof penetrations required for down conductors and connections to structural-steel framework shall be made using listed through-roof fitting and connector assemblies with solid rods and appropriate roof flashings. Use materials approved by the roofing manufacturer for the purpose. Conform to the methods and materials required at roofing penetrations of the lightning protection components to ensure compatibility with the roofing specifications and warranty.
- E. Ground Ring Electrode: The conductor shall be not less than the main-size lightning conductor.

3.2 CORROSION PROTECTION

- A. Do not combine materials that can form an electrolytic couple that will accelerate corrosion in the presence of moisture unless moisture is permanently excluded from junction of such materials.
- B. Use conductors with protective coatings where conditions would cause deterioration or corrosion of conductors.

3.3 FIELD QUALITY CONTROL

- A. Special Inspections: Engage a qualified special inspector to perform the following special inspections:
 - 1. Perform inspections as required to obtain a UL Master Label for system or LPI certification.
- B. Prepare test and inspection reports and certificates.

END OF SECTION 264113

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NORTH AIR CARGO ROOF REHABILITATION

**APPENDIX A: FASTENER FIELD WITHDRAWAL
RESISTANCE TESTING AND
LABORATORY ANALYSIS OF ASBESTOS-CONTAINING
ROOFING MATERIALS**

HCAA PROJECT NO. 6530 18



CMC
Construction Moisture
Consulting, Inc.
Roofing/Waterproofing/Exterior Walls/Glazing
Complete Building Envelope Specialists

CMC REPORT FOR
• ROOF MOISTURE SURVEY
• FASTENER FIELD WITHDRAWAL RESISTANCE TESTING (TAS 105-11)
• LABORATORY ANALYSIS OF ASBESTOS-CONTAINING ROOFING MATERIALS

PREPARED FOR:

RS&H, INC.

**Tampa International Airport
North Air Cargo Building
4720 North Hoover Boulevard
Tampa, Florida 33614
RS&H Project No.: 204-0001-045
CMC Project No.: 21-04038**

Prepared by:
Construction Moisture Consulting, Inc.
Jon-Eric Macias, RRC, RRO, IIBEC - President/CEO
Terry A. Driggs, Associate
Jan Senkyr, RRO, IIBEC - Associate
October 27, 2021



CMC
Construction Moisture
Consulting, Inc.
Roofing/Waterproofing/Exterior Walls/Glazing
Complete Building Envelope Specialists

October 27, 2021

RS&H, Inc.
1715 North Westshore Boulevard, Suite 600
Tampa, Florida 33607

Attn: Mr. Michael Blackmore, PE
Senior Aviation Engineer

Project: Tampa International Airport
North Air Cargo Building
4720 North Hoover Boulevard
Tampa, Florida 33614
RS&H Project No.: 204-0001-045
CMC Project No.: 21-04038

Re: CMC Report for

- Roof Moisture Survey
- Fastener Field Withdrawal Resistance Testing (TAS 105-11)
- Laboratory Analysis of Asbestos-Containing Materials Testing

Dear Mr. Blackmore:

Between October 4, 2021 and October 12, 2021, Construction Moisture Consulting, Inc. (CMC) conducted multiple site visits to perform a roof moisture survey and Testing Application Standard (TAS 105-11) Field Withdrawal Resistance Testing for roofing fasteners installed in steel roof decking at the subject project. In addition, independent laboratory analysis of asbestos-containing roofing materials (ACRM) was performed on existing roof core samples extracted from each roof area. The purpose of this study was to evaluate concealed existing roofing conditions to allow informed decision-making for remedial roof renovations. The following executive summary outlines our findings along with Appendix "A" Roof Moisture Survey, Appendix "B" Fastener Field Withdrawal Resistance Testing (TAS 105-11), and Appendix "C" Polarized Light Microscopy (PLM) Laboratory Analysis of Suspect Asbestos Roof Materials which contains more detailed information of our investigation including survey/test methodologies and the resulting data and outcomes.

1.0 EXECUTIVE SUMMARY

1.1 Roofing Construction

- 1.1.1 The overall roofing on the building is subdivided into 7 areas (numbered south-to-north respectively) totaling 126,900 square feet (SF). The roof composition includes steel roof decking supported by 1/8" per foot sloped (west-to-east) steel bar joists, 3/4" fiberboard atop the steel roof deck

covered with multiple layers of polyisocyanurate roof insulation board ranging from 3" to 13" in thickness (tapered from west-to-east to provide slope-to-drain), 3/4" fiberboard cover board and multiple plies of fiberglass roofing felts set in asphalt bitumen covered with an asphalt bitumen flood coat with embedded gravel surfacing. A line of internal roof drains are located adjacent to the east parapet wall.

1.2 Roof Moisture Survey

1.2.1 The roof moisture survey included a 5-person team with handheld infrared (IR) cameras used to scan the roof surface and identify thermal anomalies (temperature differentials) which are often indicative of concealed moisture within the roofing system.

1.2.1.1 Please note, detecting these thermal anomalies and potential concealed moisture within a roofing system can be limited by a wide range of variables including the overall thickness (depth) of the assembly, moisture that has potentially migrated laterally between insulation layers deep within the roofing system (with the upper layers dryer than the lower layers) as well as environmental conditions.

1.2.2 Tramex RWS non-destructive moisture meters were also used to validate the identified thermal anomalies as areas with concealed moisture, though the effective depth of these meters is approximately 4" into the roofing system. Roof core samples were also extracted at locations within and outside the boundaries of the identified thermal anomalies to further evaluate the findings of the above survey efforts.

1.2.3 The IR scanning and non-destructive moisture meter readings appeared to reveal relatively minor percentages of moisture entrapped within each of the roof areas. However, there are areas deep within the roofing system which cannot be evaluated through the IR scanning and/or non-destructive moisture meter readings which is likely due to insulation thicknesses and limitations of these test procedures.

1.2.4 Accordingly, roof core samples were also taken at a wide range of locations in order to perform the required Fastener Field Withdrawal Testing (TAS 105-11). During removal of these roof cores, multiple layers of the concealed roof system as well as the underlying metal roof deck were evaluated and the fiberboard materials were probed with handheld Delmhorst® pin moisture meters in order to determine relative (comparative) moisture content. These evaluations revealed significantly more areas of concealed/entrapped moisture as well as deteriorated fiberboard, insulation and decking materials. Over half of the roof cores removed revealed a significant amount of entrapped moisture within the roofing system.

1.3 Fastener Field Withdrawal Resistance Testing (TAS 105-11)

- 1.3.1 Depending on the SF of each roof area, 13 to 16 locations were selected for roof core extractions to test the attachment of roof fasteners into the steel roof deck in accordance with TAS 105-11. Testing per the standard resulted in average pound-force resistance values which should be adequate for mechanically fastening a new roof system to the existing roof deck. Additional aspects of the overall roof system such as the required wind uplift pressures, attachment of metal flashing/coping systems, etc., must also be considered as part of any future roof design.
- 1.3.2 Upon removing the roof core samples, CMC further evaluated the roof insulation and reviewed the condition of the roof deck surface (reference Report Item 1.2.4 above).
- 1.3.2.1 Although the majority of the roof deck areas seen through the 16" X 16" roof cores appeared to be in good condition, Roof Area #1 had 2 areas noted with slight rust corrosion, Roof Area #3 had 2 locations with severe rust corrosion and 1 location with moderate rust corrosion, Roof Area #4 had 3 locations with moderate rust corrosion, and Roof Area #6 had 1 area with moderate rust corrosion and 2 areas with slight rust corrosion on the roof deck surface. Based on the above, further review of the roof deck from the building interior may be helpful in determining an approximate quantity of steel roof decking in need of remediation.

1.4 Laboratory Analysis of Asbestos-Containing Roofing Materials

- 1.4.1 Two (2) roof samples from each of the 7 roof areas were tested for the presence of ACRM via PLM laboratory analysis. According to the testing laboratory, ACRM were not detected in any of the 14 roof cores tested.

1.5 Conclusions

- 1.5.1 Based on our overall findings, it appears complete removal of the existing roofing system may be the only roof renovation alternative. This conclusion is primarily due to the levels of concealed moisture and deteriorated materials observed at the roof core locations in addition to the results of the IR survey.
- 1.5.2 Please be advised, availability of rigid roof insulation, cover board and other materials has become extremely challenging within the national roofing market. This has resulted in unusually long lead times for acquiring such materials as well as associated pricing fluctuations.

Tampa International Airport - North Air Cargo Building - Tampa, Florida

October 27, 2021

Page 4

Should you have any questions, please feel free to contact me at your convenience at (813) 695-4048.

Respectfully,

CONSTRUCTION MOISTURE CONSULTING, INC.



Jon-Eric Macias, RRC, RRO, IIBEC
President/CEO



Terry A. Driggs
Associate



Jan Senkyr, RRO, IIBEC
Associate

Attachments

cc: David Gordon/RS&H, Inc.



CMC
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Roofing/Waterproofing/Exterior Walls/Glazing
Complete Building Envelope Specialists

APPENDIX “A”

BRADY INFRARED INSPECTIONS, INC. INFRARED ROOF MOISTURE SURVEY REPORT

Infrared Inspection Report

**CMC – Construction Moisture
Consulting, Inc.**

TIA North Cargo Building - 6720 North Hoover Blvd, Tampa



**Infrared Roof Moisture Walk-on Survey
October 4 & 5, 2021**



Brady Infrared Inspections, Inc.

www.bradyinfrared.com

(772) 288-9884



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Infrared Roof Moisture Survey Report

CMC – TIA North Cargo Building - 6720 North Hoover Blvd., Tampa, FL

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VI. Roof-6 Survey Information	Rear of Report
VII. Roof-7 Survey Information	Rear of Report



**INFRARED INSPECTION REPORT
ROOF SYSTEM MOISTURE SURVEY
CMC – TIA NORTH CARGO BUILDING – 6720 N. HOOVER BLVD. TAMPA, FL**

End User: Jon-Eric Macias – Construction Moisture Consulting (CMC)
Date Inspected: October 4 & 5, 2021
Purpose of Inspection: Condition Assessment

Forward

Construction Moisture Consulting, Inc. (CMC) contracted Brady Infrared to conduct an infrared roof moisture survey on seven connected roofs at the TIA North Cargo Building located at 6720 North Hoover Blvd., Tampa, FL. The survey is a condition assessment to document and quantify wet insulation in the roof system.

This Qualitative Report of Infrared Inspection provides complete documentation of thermal patterns detected in your roofing and building system. It provides pictorial evidence of potential trapped moisture and delaminates in these systems. This report is intended to help you prioritize repairs to provide the greatest return from this inspection and your maintenance.

This Qualitative Report of Infrared Inspection meets the documentation requirements of the Infrasppection Institute Standard for Infrared Inspection of Insulated Roofs, 2011 Edition.

How Infrared Thermography Works To Detect Moisture

Infrared imagers “see” the heat radiated from your equipment in real time, just like a video camera sees visible light. Colors in the scene of a thermogram (pictures of heat), are matched to a reference bar. Colors appearing closer to the top or right of the reference bar indicate higher temperatures.

Trapped moisture in roof systems adds mass to the host insulation. During the day, the sun heats the surface. Dry areas due to less mass warm at a quicker rate than wet areas, but also store less thermal energy than wet areas. At night, the energy stored in the roof systems is lost through radiant, convective and conductive effects. Since the wet insulation has more solar energy stored than dry area, these areas take longer to cool. When viewed with an infrared camera under cooling conditions, wet insulation appears as hot/warm areas.

Thermal patterns exhibited by a roofing system can be influenced by many factors including the presence of water beneath the roof membrane. The ability to detect latent moisture within a roofing system will be influenced by several factors including, but not limited to:

- Roof Construction
- Type and thickness of insulation
- Amount of moisture
- Amount of solar loading prior to the inspection
- Weather conditions prior to, and during the inspection

It is important to note that the infrared camera measures infrared energy at the surface of the roof and not measuring to a specific depth into the roof. In this case, latent moisture in roof system will generate a temperature difference at the roof surface. If the temperature produced by the trapped moisture is significant enough for the infrared camera to detect (the thermal cameras used for this inspection can detect a fraction of one Fahrenheit degree). Deep-seated moisture in a roof system that has dry insulation sitting above it, may not produce a temperature difference that is significant enough for the infrared imager to detect, and therefore it is possible for moisture at deeper depths to be masked and be undetectable to a thermal imager.

Inspection Method

Equipment Used

A FLIR TC650SC and ThermaCam B660 with a wide angle 45-degree lens were used to scan and collect thermal images of the roof with the emissivity setting on the camera set at 1.00. These cameras are high performance thermal images produced with modern technology. They have the ability to detect temperature difference of a fraction of one Fahrenheit degree.

Tramex RWS impedance moisture meters were used to verify thermal anomalies for high moisture content (two roof survey technicians from CMC assistant Brady Infrared thermographers to verify thermal anomalies prior to documenting them). The Tramex RWS meter has a maximum scanning depth of 4-inch depending on the meter setting and material being evaluated (per Tramex user manual).

Climate / Scanning Conditions

The roof surface was scanned on October 4, 2021 under cooling conditions. No precipitation was recorded on the roof for over one (1) week prior to this survey. All roof surfaces were dry.

A delta temperature of greater than 10-degrees F, from the daytime temperature (low 90's F degrees) to the temperature at the time of the scan (low 80 F degrees), was present during scanning. Winds during the day averaged 5-7 mph and during the inspection < 3 mph.

The roof was scanned by a walk-on survey. Scanning began 30 minutes after sunset, although the roof began cooling approximately one hour prior to sunset due to cloud cover over the area. No section of roof was scanned until the "thermal viewing window" opened to provide meaningful data.

Thermal anomalies detected with the infrared camera were verified for elevated moisture using a Tramex RWS moisture meter with the following scan depth settings for all roof sections:

- Meter-1: Red/Yellow - sensitivity set at 5
- Meter-2 Yellow/Rd – sensitivity set at 9.5

Meters were placed on the roof in an area of no thermal anomalies and adjusted to level where the meter needle registered 100% moisture and then the sensitivity was backed down to bring the meter needle to zero. The meter was then placed on the roof surface showing a thermal anomaly, where the meter needle would register 100% moisture.

Survey Methods

A five-person team conducted the infrared survey on the evening of 10/4/21. Two infrared thermographers equipped with FLIR hand-held cameras, two roof technicians who operated moisture meters, and a fifth person who served as a safety observer and provided general support. The roofs were walked and scanned with the thermal camera to identify thermal anomalies. Once an anomaly was located, it was tested with the calibrated Tramex RWS moisture meter. If an area tested positive for elevated moisture the boundary of the areas was marked on the roof with high visibility spray paint.

The following day of the survey, the roof was walked again to collect daylight visual images of the thermal anomalies and measure their size. At the same time, two core cuts per roof sections were taken; one to verify roof moisture and the other to verify dry roof conditions. The location and results of the core cuts are presented in the Appendices for each of the seven roof sections.

Roof Information

The TIA North Crago Roof is comprised of seven (7) connected roof sections. Starting from south to north, the roofs are designated Roof-1 through Roof-7 (see Page 6 "Roof Designation Map"). The total roof area of all seven roofs combined is 121,150 sq. ft. and they all share the same roof construction as determined through a series of core cuts conducted by CMC.

Roof construction is as follows:

- Gravel in Asphalt
- Roof plies
- ¾-inch Fiberboard
- Varying thickness of Iso-board (per CMC roof surveyor 3" to 13" inches)
- ¾ inch Fiberboard
- Metal Deck

Please note that construction details are simplified and generalized for thermal assessment and should not be used for detailed planning – contractors / engineers should conduct independent evaluation of construction as they deem necessary for repair / construction work. Detailed roof construction assessments were NOT performed by Thermographer.

Inspection Findings

Thermograms showing the thermal patterns of the seven roof sections are presented in Appendix-I thru Appendix-VII. Thermal anomalies that tested positive for elevated moisture using the Tramex meter were documented on every roof section. Core cuts conducted confirmed wet and dry conditions within and outside the confines of the boundary of thermal anomalies marked on the roof surfaces (see 2nd page of each appendices for core cut results).

Core cut results showed that the upper ¾" fiberboard and iso-board were wet. This was confirmed using a Delhorst 2100 probe meter set on the comparative scale (please note that values produced by this meter set on this scale are not actual moisture content readings; but rather moisture levels for comparative purposes. Core samples were immediately enclosed in a zip-lock bag and allowed to sit for several minutes; cores that confirmed high elevation with the Delhorst meter also showed levels on condensation inside the plastic bag.



The percentage of total roof area of wet insulation detected using infrared on this project is as follows:

Roof ID	% Of Total Roof Area
Roof-1	12.81%
Roof-2	2.90%
Roof-3	10.94%
Roof-4	19.45%
Roof-5	5.63%
Roof-6	12.98%
Roof-7	3.59%

Detailed information regarding size of each thermal anomaly and their locations on each roof is presented in the appendices of this report.

Limitations of Findings

Following the conclusion of our walk-on verification survey, CMC conduct pull test on the roof sections, which required the removal of 12"x12" (or larger) sections of roof material to expose the metal deck. During this testing, it was noted that in some areas outside the boundary of thermal anomalies that were marked on the roof, that the bottom layer of fiberboard had elevated amounts of moisture overlain by dry iso-board and fiberboard.



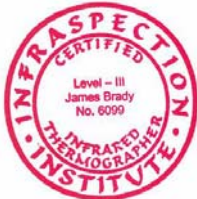
As stated earlier in this report, deep seated moisture in a roof system that is overlain by dry insulation (in this case several inches of iso-board) may not produce a temperature that is detectable by a thermal imager; the wet insulation at depth can be masked by overlying dry insulation. Furthermore, the Tramex RWS meters used for verifying moisture in this roof system has a limited depth of penetration of up to approximately 4 inches, depending on the mode, the range of sensitivity selected and the material being tested (per Tramex Operating Manual).

Complete documentation regarding this infrared inspection and report is presented on Page-7.

I hope you find the enclosed information responsive to your needs. It was a pleasure working with you on this project.

Sincerely,

James Brady
Level III Certified Infrared Thermographer #6099





Roof Designation Map

TIA North Cargo Building - 6720 North Hoover Blvd, Tampa



Roof Construction
- Gravel Ballast in Asphalt
- Inter-plyies
- 3/4" Fiberboard
- Tapered Iso-board (3" to 13")
- Base Fiberboard
- Metal Deck

Roof ID	Demensions	Area (Sq. Ft.)
Roof-1	210' x 89'	18,690
Roof-2	210' x 89'	18,690
Roof-3	210' x 89'	18,690
Roof-4	210' x 89'	18,690
Roof-5	210' x 89'	18,690
Roof-6	150' x 89'	13,350
Roof-7	150' x 89'	13,350
Total Roof Area		120,150



REPORT SUMMARY FOR

Client / Facility Location

Report Date: October 11, 2021

Type of Inspection: Roof Moisture Survey

Purpose of Inspection: Condition Assessment

Date of Inspection: October 4 & 5, 2021

End User: Jon-Eric Macias - Construction Moisture Consulting, Inc. (CMC)

Project Location: 6720 Noerth Hoover Blvd.
Tampa, FL

Thermographer / Qualified Assistant

Thermographer: James Brady

Certification Level/Number: Level III - #6099 Infraspection Institute

Equipment Used

Thermal Imager: FLIR B660 S/N: 404002655 and FLIR T650SC S/N: 55912195

Detector: Focal plane array (FPA) uncooled microbolometer; 640 x 480 pixels

Spectral Range: 7.5 to 13 μ m

Thermal Resolution: <40mK at 30° C (86° F)

Field of view / min focus distance: 24° x 18° / 0.3 m

Image Frequency: 30 Hz (non-interlaced)

Spatial Resolution (IFOV) 0.65 mrad

Temperature Range: -40° C to +120° C (-40° F to +248° F)

Accuracy: \pm 2° C (\pm 3.6°F) or 2% of reading

IR Lens 45-degree

Weather / Comments

Weather Data: Daytime Temps: low 90's Scanning temperatures: mid to low 80's
Partly Cloudy Sky
Winds <5 mph



Appendix-I

Roof-1

TIA North Cargo Building - 6720 North Hoover Blvd, Tampa

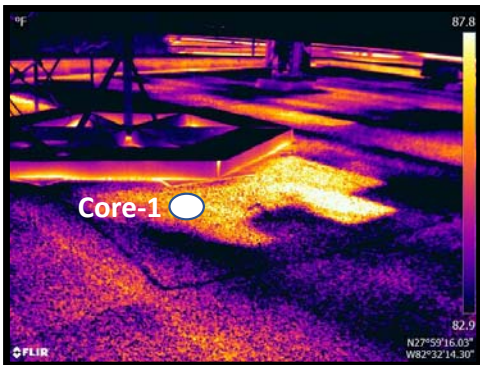
- Location of Thermal Anomalies / Core Cuts
 - Core Cut Results
 - Thermal / Visual Images of Anomalies



Core Cuts 1 & 2 Roof-1 / Anomaly-1

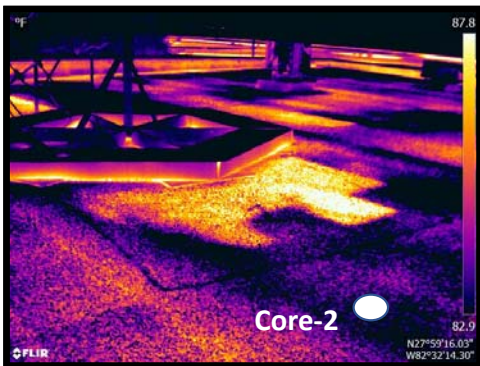
TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL

Core-1 Located at Anomaly-1 (10/5/2021)



Core located within wet area of Anomaly-1; Moisture Meter Results = 86.2% comparative scale on upper layers of roof construction

Core-2 Located at Anomaly-1 (10/5/2021)

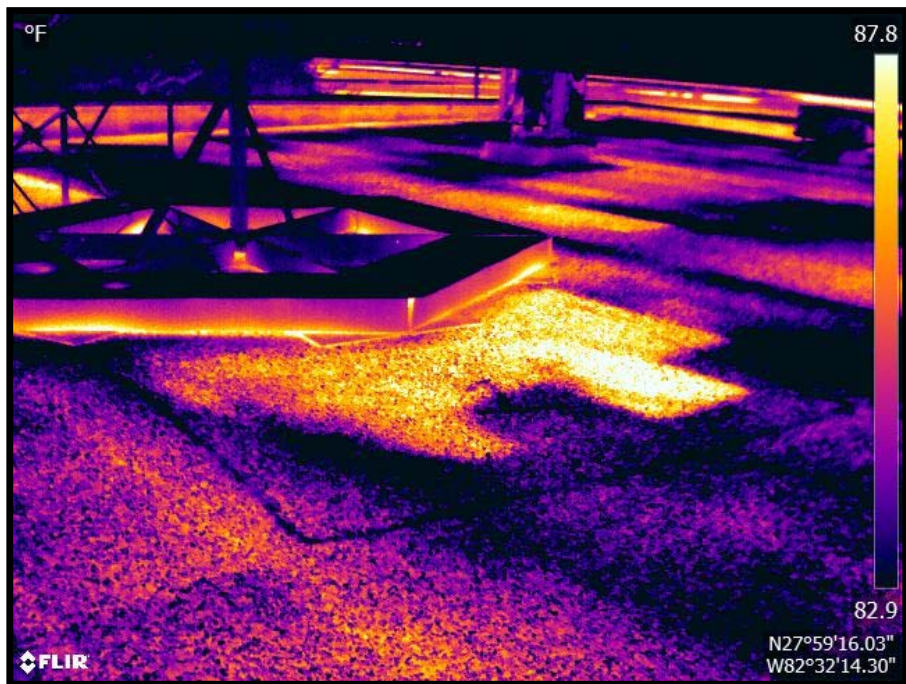


Core located outside of Anomaly-1; Moisture Meter Results = 8.2% comparative scale



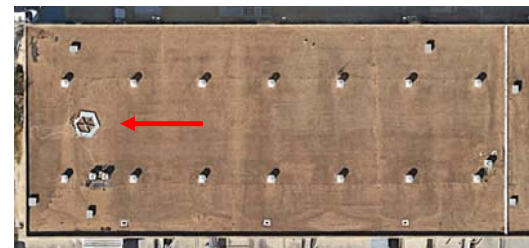
Thermal Anomaly-1 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:40:11 PM
IR Image: IR_1598.jpg

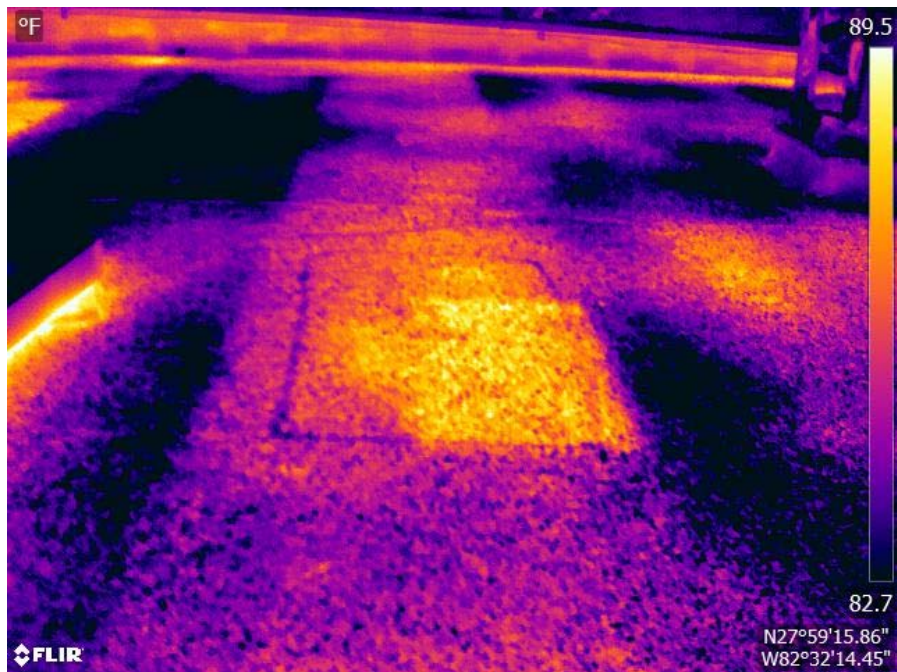
Size of Anomaly = 350 Sq. Ft.





Thermal Anomaly-2 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:42:17 PM
IR Image: IR_1599.jpg

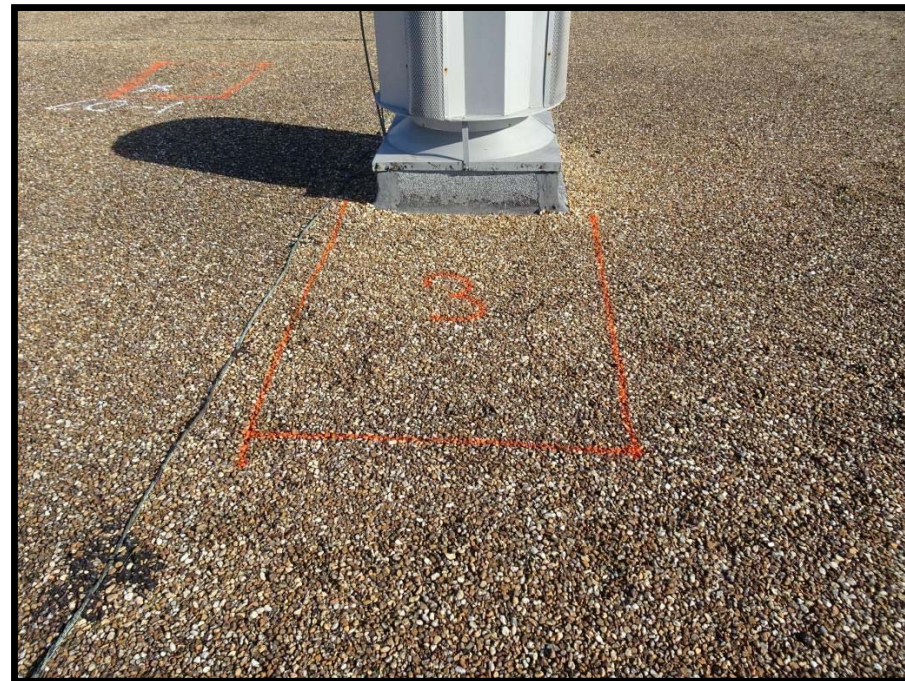
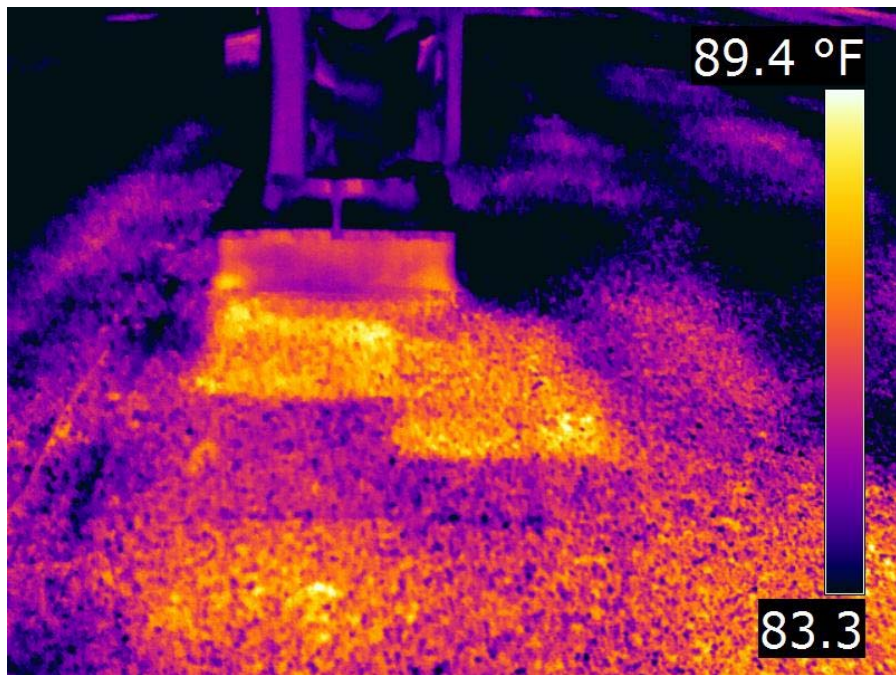
Size of Anomaly = 15 Sq. Ft.





Thermal Anomaly-3 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:43:17 PM
IR Image: IR_1600.jpg

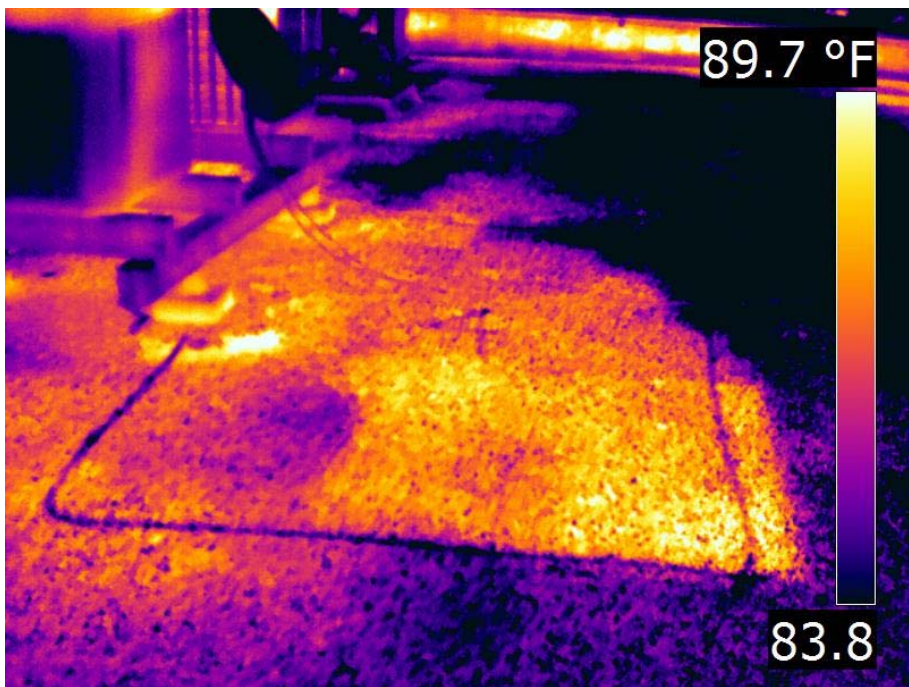
Size of Anomaly = 20 Sq. Ft.





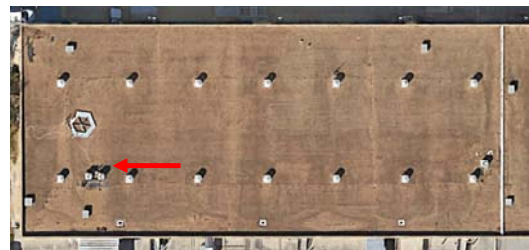
Thermal Anomaly-4 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:45:11 PM
IR Image: IR_1601.jpg

Size of Anomaly = 40 Sq. Ft.





Thermal Anomaly-5 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:45:56 PM
IR Image: IR_1602.jpg

Size of Anomaly = 12 Sq. Ft.





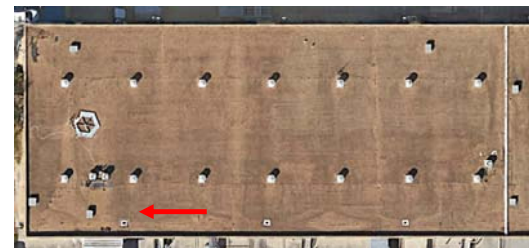
Thermal Anomaly-6 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:50:31 PM
IR Image: IR_1603.jpg

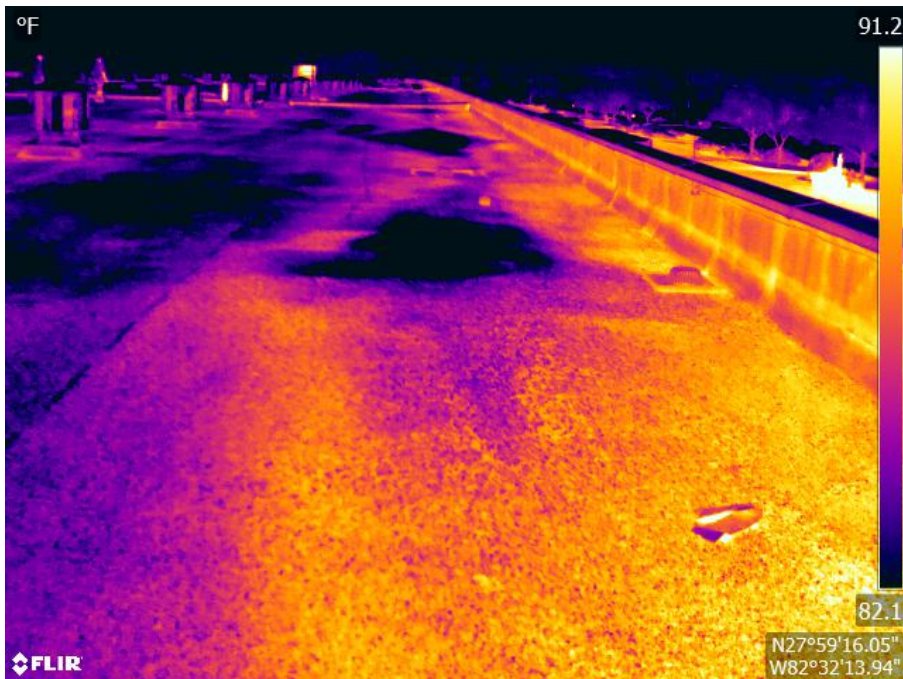
Size of Anomaly = 1,890 Sq. Ft.





Thermal Anomaly-6 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:50:50 PM
IR Image: IR_1604.jpg

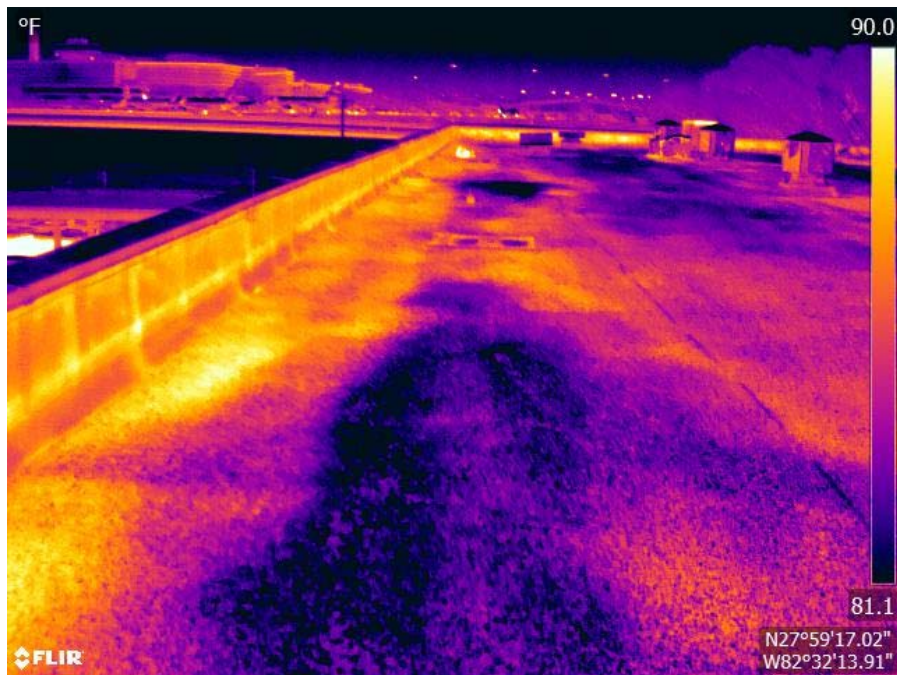
Size of Anomaly = 1,890 Sq. Ft.





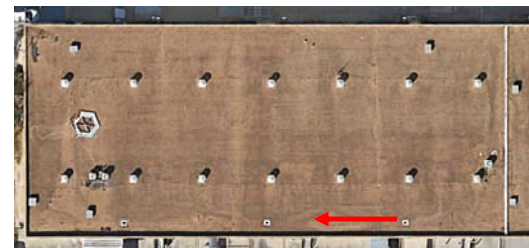
Thermal Anomaly-6 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:51:41 PM
IR Image: IR_1606.jpg

Size of Anomaly = 1,890 Sq. Ft.





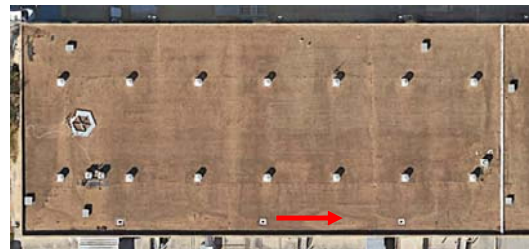
Thermal Anomaly-6 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:52:45 PM
IR Image: IR_1607.jpg

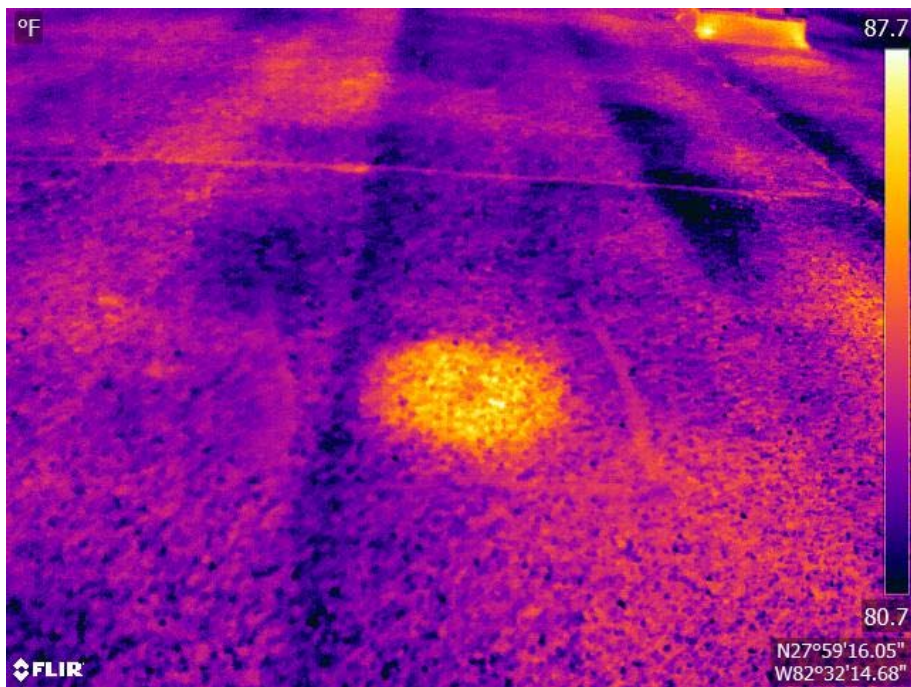
Size of Anomaly = 1,890 Sq. Ft.





Thermal Anomaly-7 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:53:46 PM
IR Image: IR_1608.jpg

Size of Anomaly = 12 Sq. Ft.





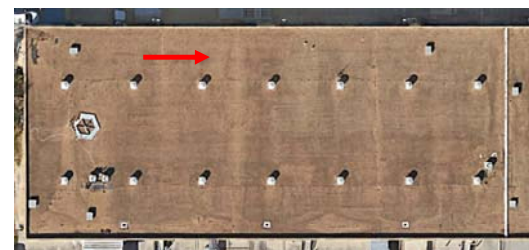
Thermal Anomaly-8 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:54:30 PM
IR Image: IR_1609.jpg

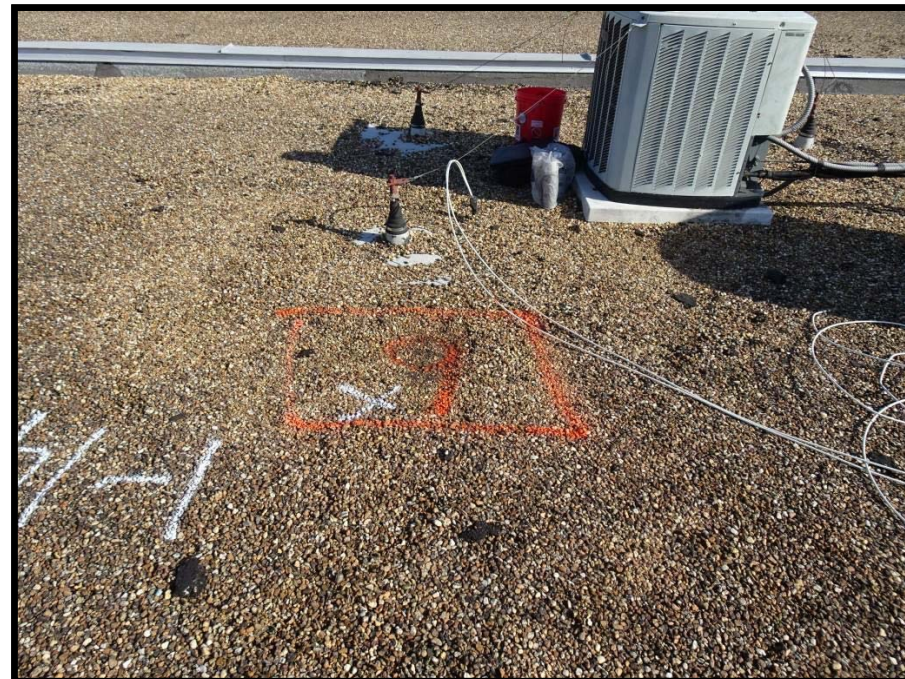
Size of Anomaly = 50 Sq. Ft.





Thermal Anomaly-9 on Roof -1

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:56:31 PM
IR Image: IR_1610.jpg

Size of Anomaly = 5 Sq. Ft.





Appendix-II

Roof-2

TIA North Cargo Building - 6720 North Hoover Blvd, Tampa

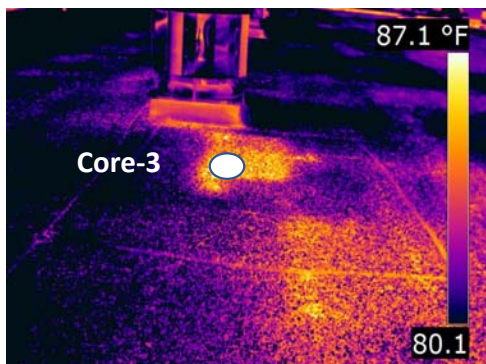
- Location of Thermal Anomalies / Core Cuts
 - Core Cut Results
 - Thermal / Visual Images of Anomalies



Core Cuts 3 & 4 Roof-2 / Anomaly-17

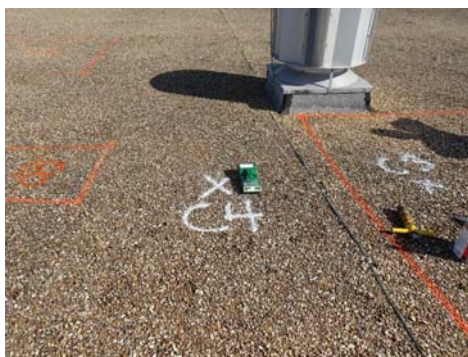
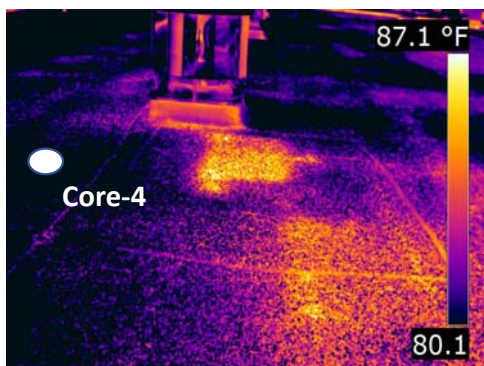
TIA North Cargo Bld. - 6720 North

Hoover Blvd, Tampa, FL
Core-3 Located at Anomaly-17 (10/5/2021)



Core located within wet area of Anomaly-17; Moisture Meter Results = **99.9%** comparative scale on upper layers of roof construction

Core-4 Located at Anomaly-17 (10/5/2021)

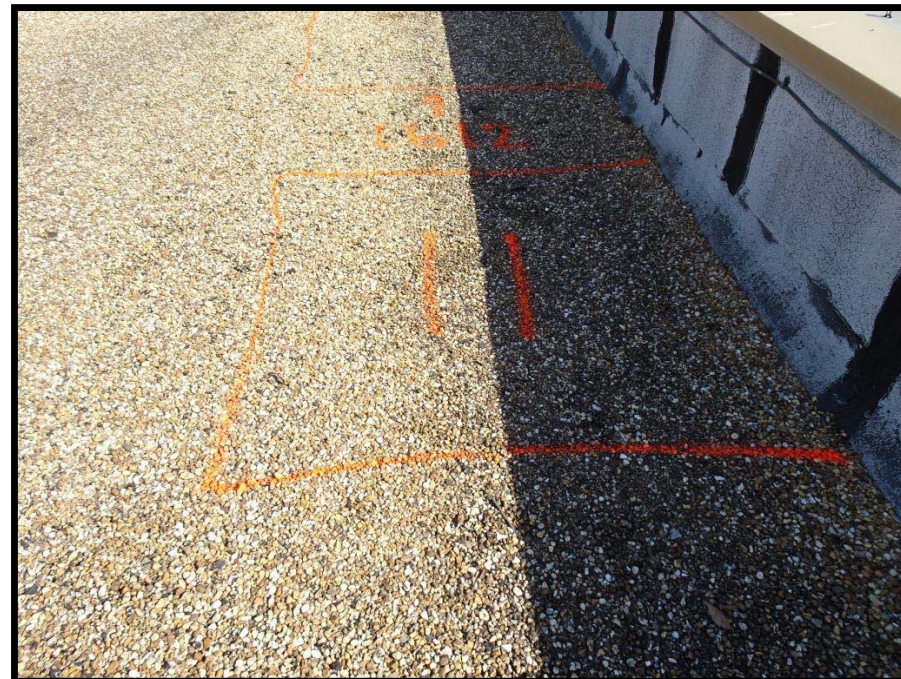
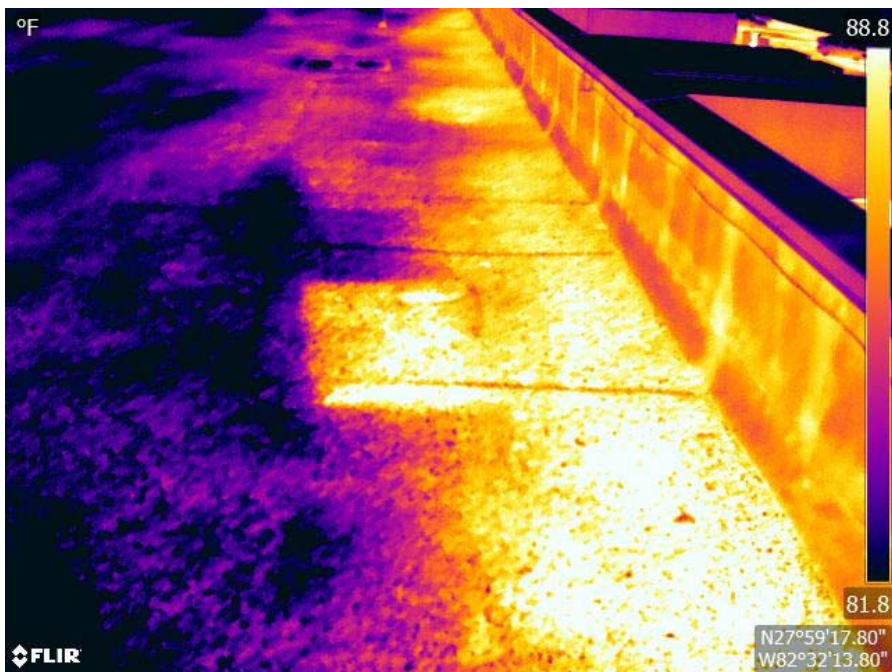


Core located outside of Anomaly-17; Moisture Meter Results = **8.2%** comparative scale



Thermal Anomaly-11 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:59:23 PM
IR Image: IR_1611.jpg

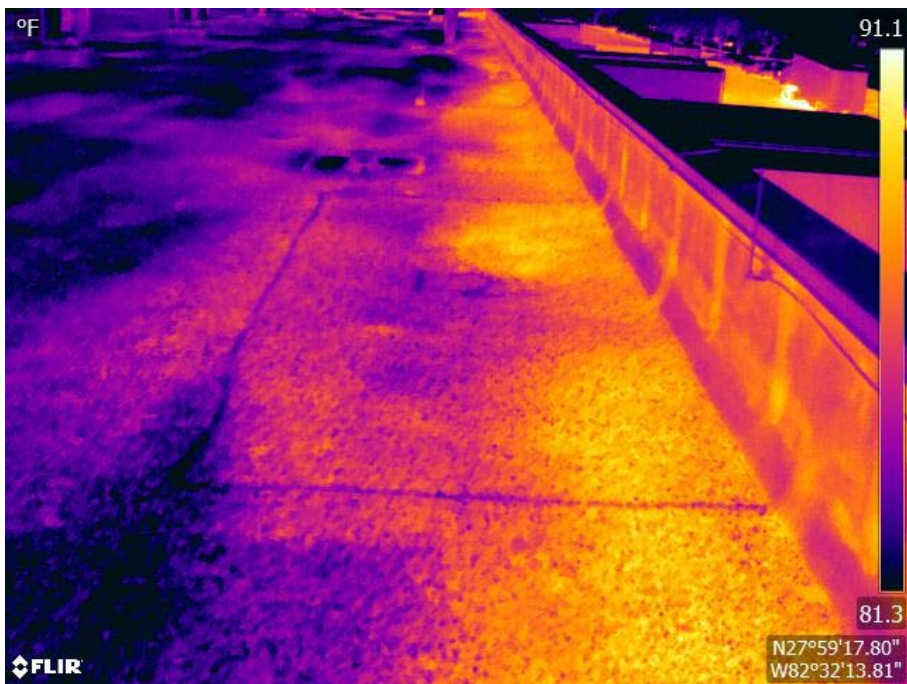
Size of Anomaly = 15 Sq. Ft.





Thermal Anomaly-12 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 7:59:50 PM
IR Image: IR_1612.jpg

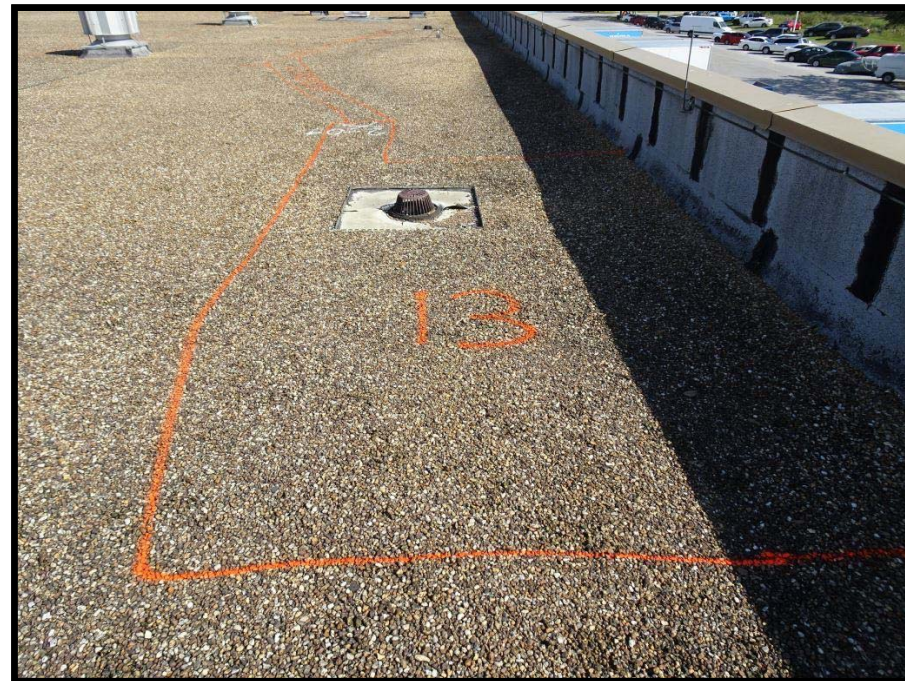
Size of Anomaly = 75 Sq. Ft.





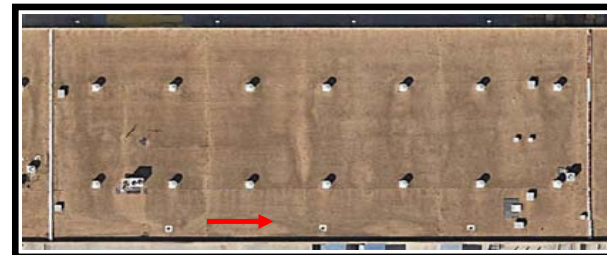
Thermal Anomaly-13 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:02:27 PM
IR Image: IR_1613.jpg

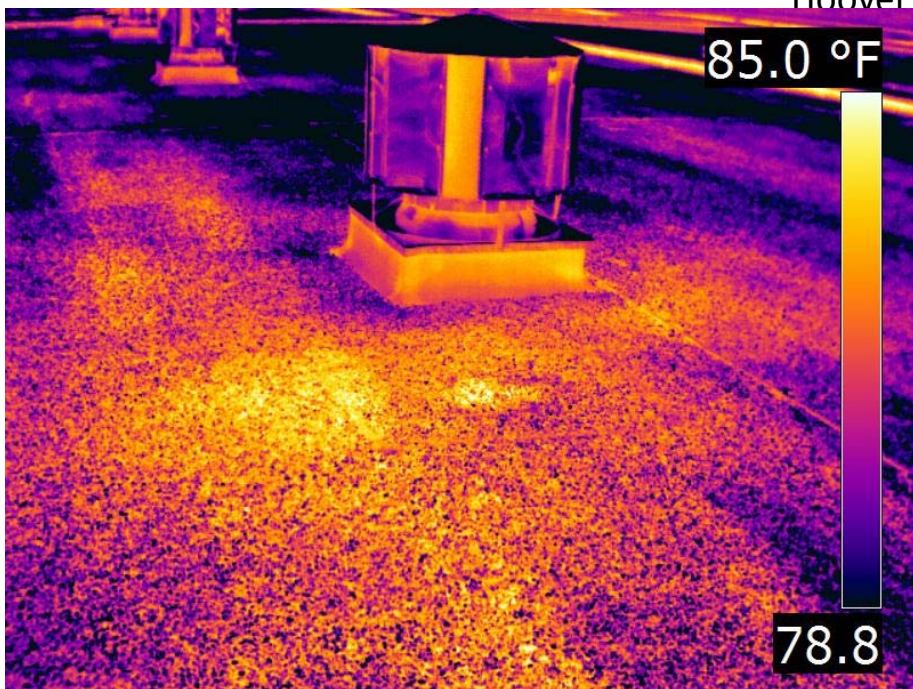
Size of Anomaly = 90 Sq. Ft.





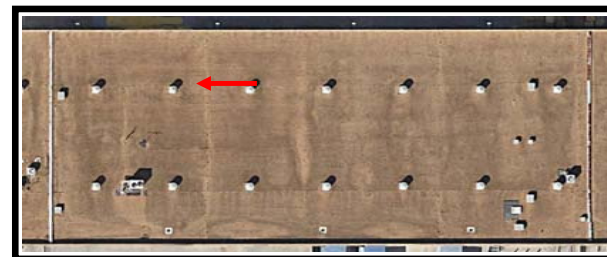
Thermal Anomaly-15 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:12:35 PM
IR Image: IR_1616.jpg

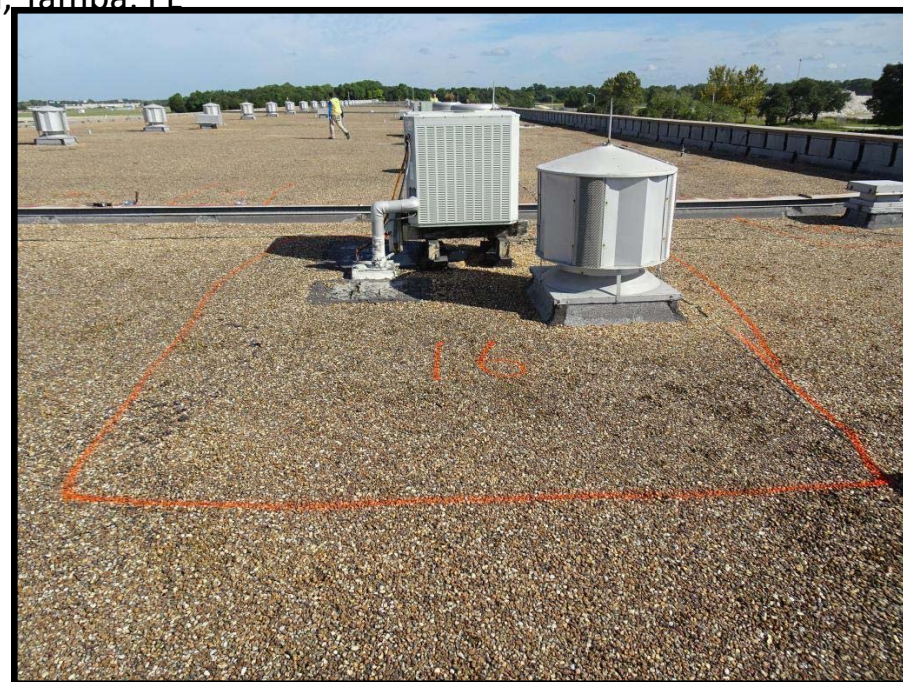
Size of Anomaly = 12 Sq. Ft.





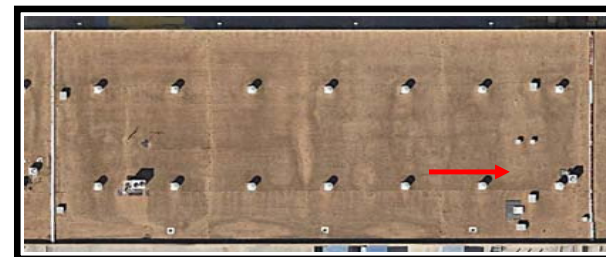
Thermal Anomaly-16 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:27:01 PM
IR Image: IR_1629.jpg

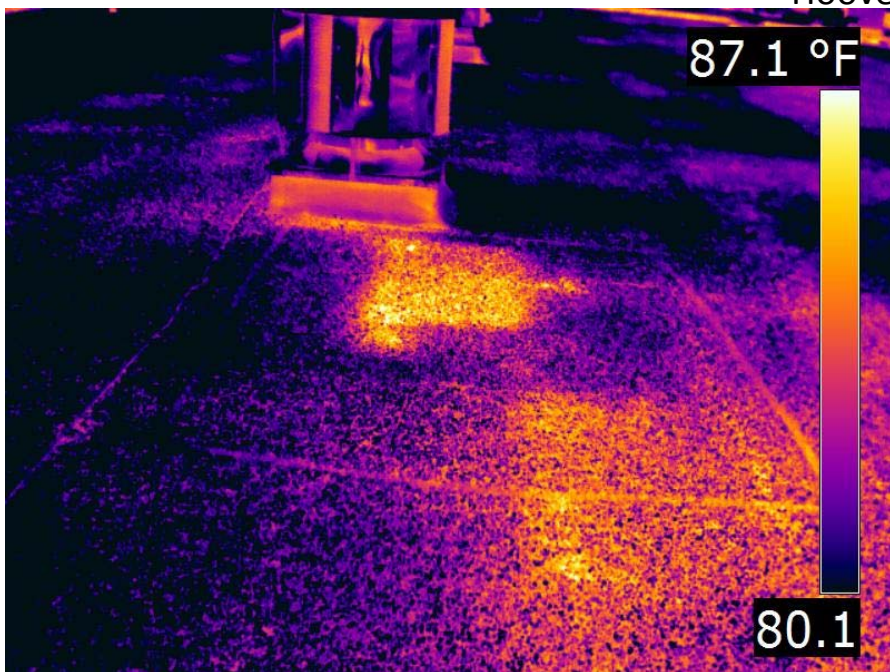
Size of Anomaly = 150 Sq. Ft.





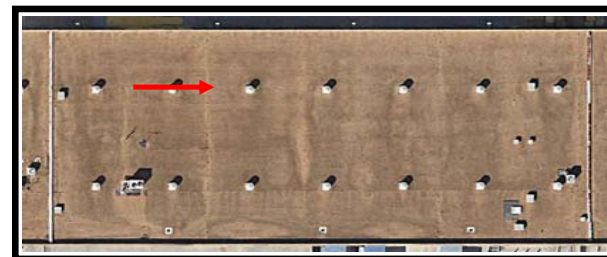
Thermal Anomaly-17 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:13:10 PM
IR Image: IR_1617.jpg

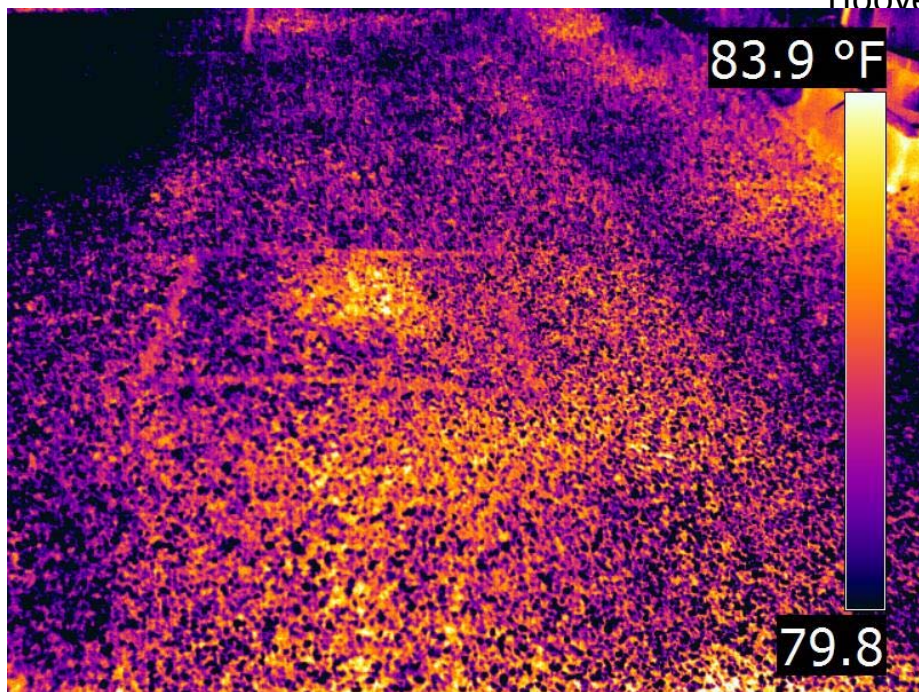
Size of Anomaly = 20 Sq. Ft.





Thermal Anomaly-18 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:23:40 PM
IR Image: IR_1624.jpg

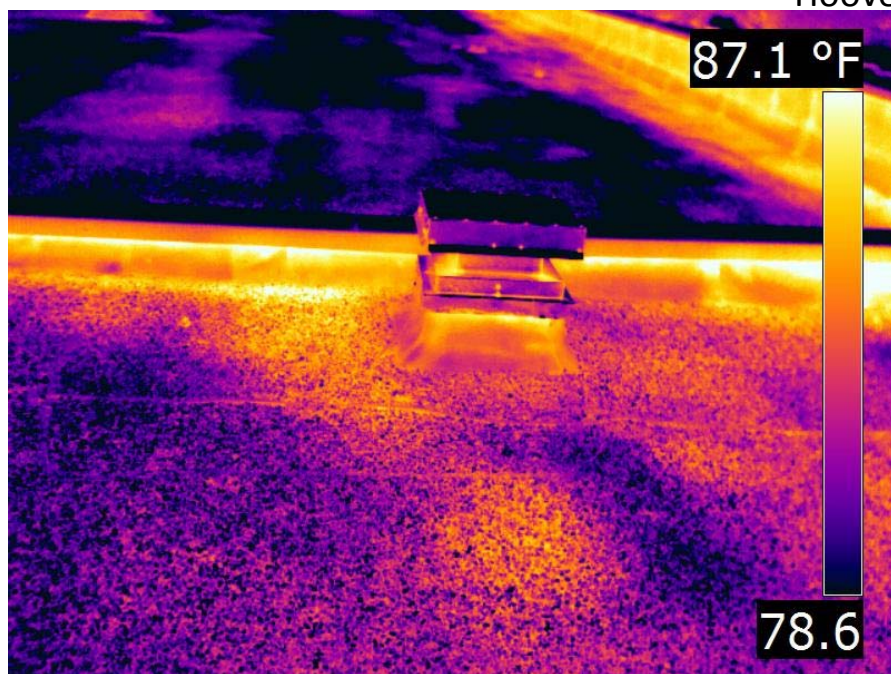
Size of Anomaly = 4 Sq. Ft.





Thermal Anomaly-19 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:26:40 PM
IR Image: IR_1628.jpg

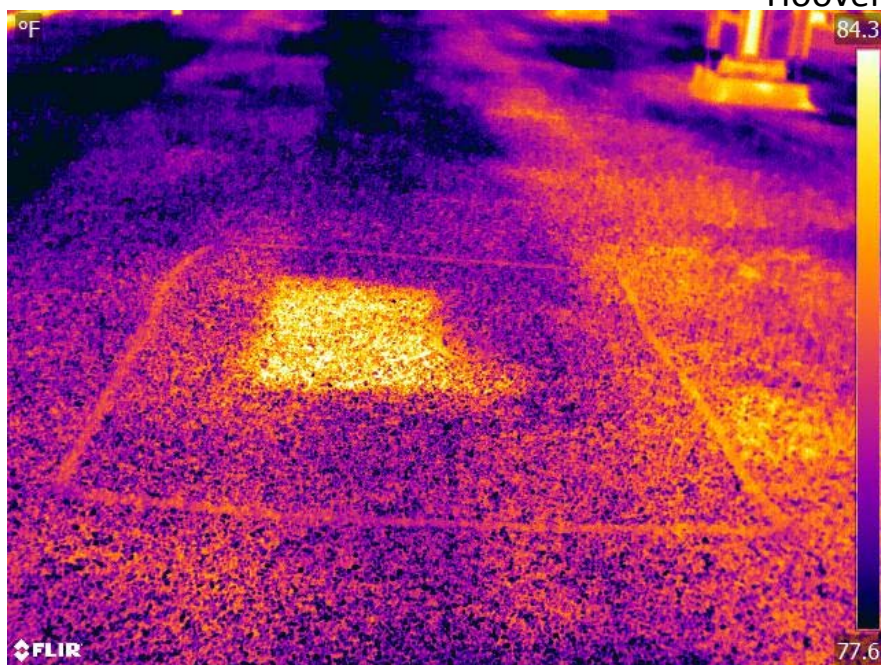
Size of Anomaly = 26 Sq. Ft.





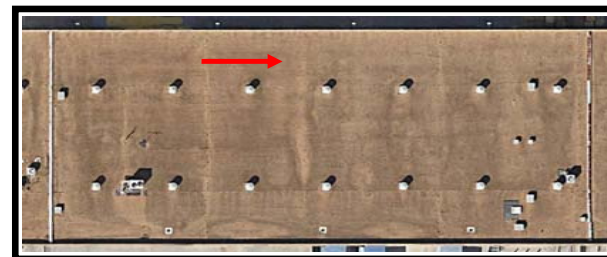
Thermal Anomaly-20 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:24:36 PM
IR Image: IR_1625.jpg

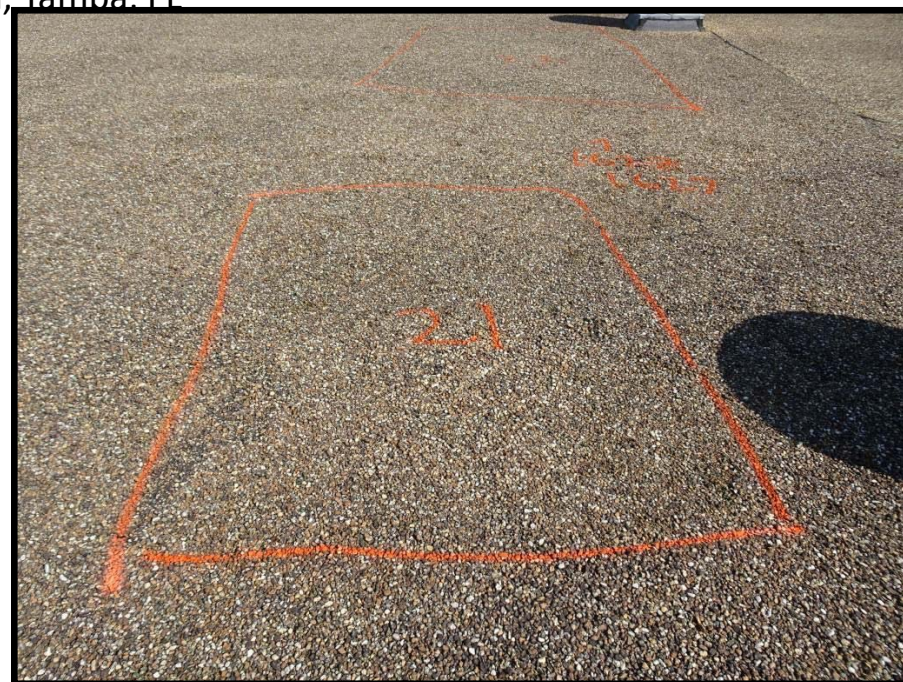
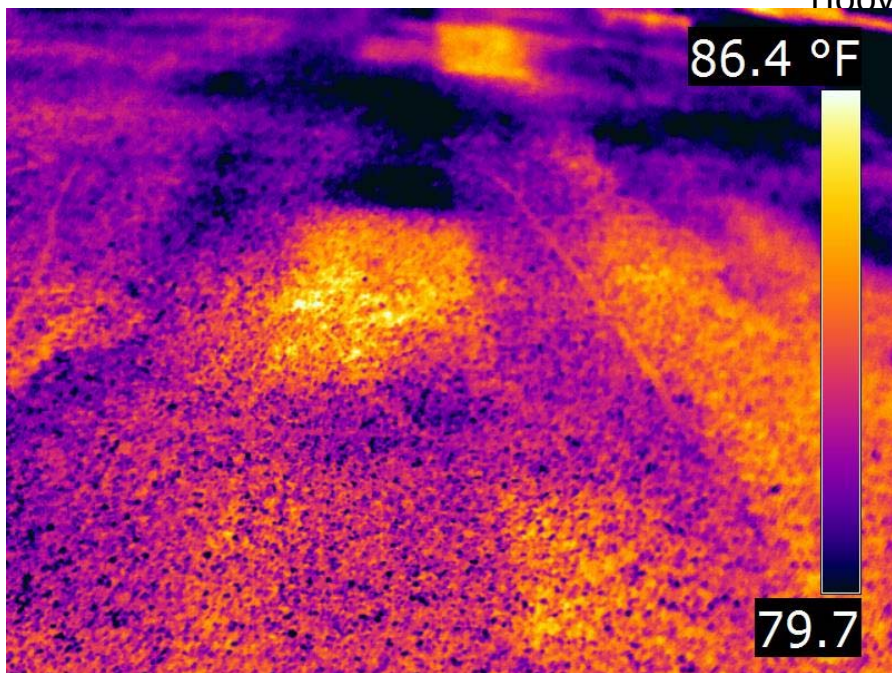
Size of Anomaly = 25 Sq. Ft.





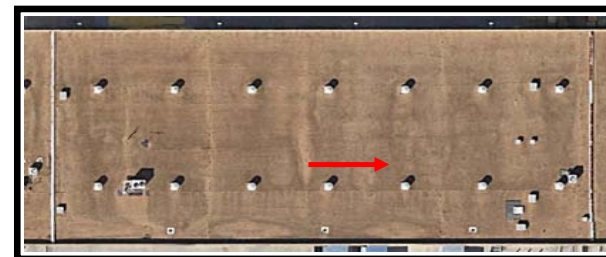
Thermal Anomaly-21 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:25:20 PM
IR Image: IR_1626.jpg

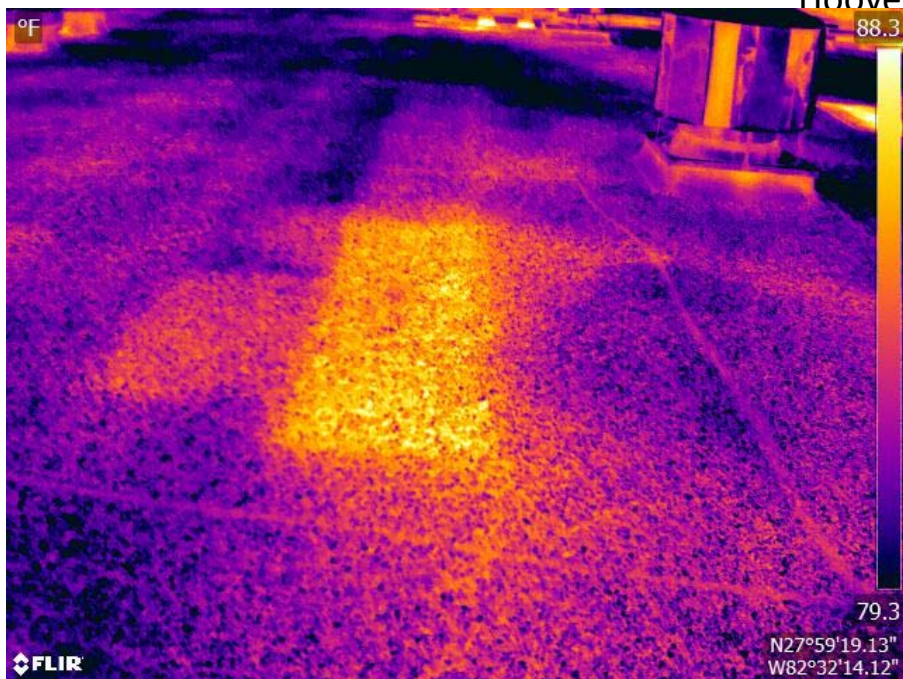
Size of Anomaly = 25 Sq. Ft.





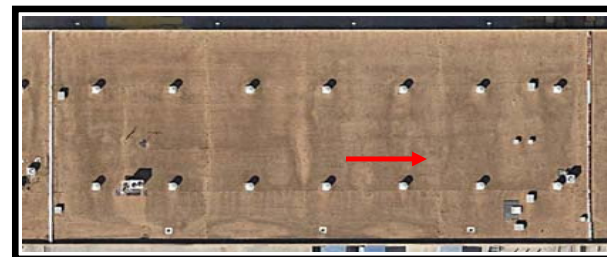
Thermal Anomaly-22 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:25:43 PM
IR Image: IR_1627.jpg

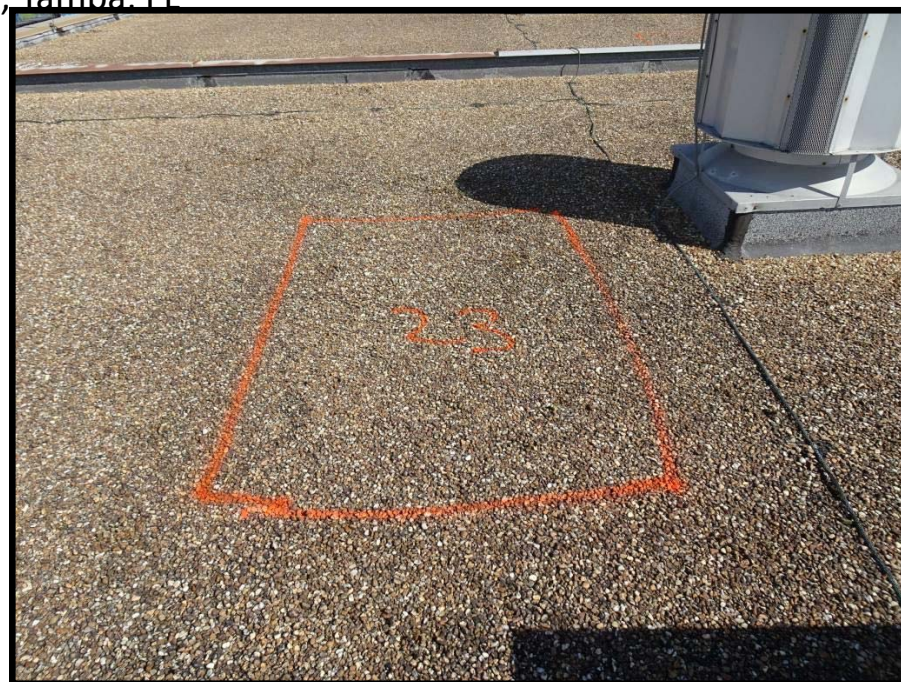
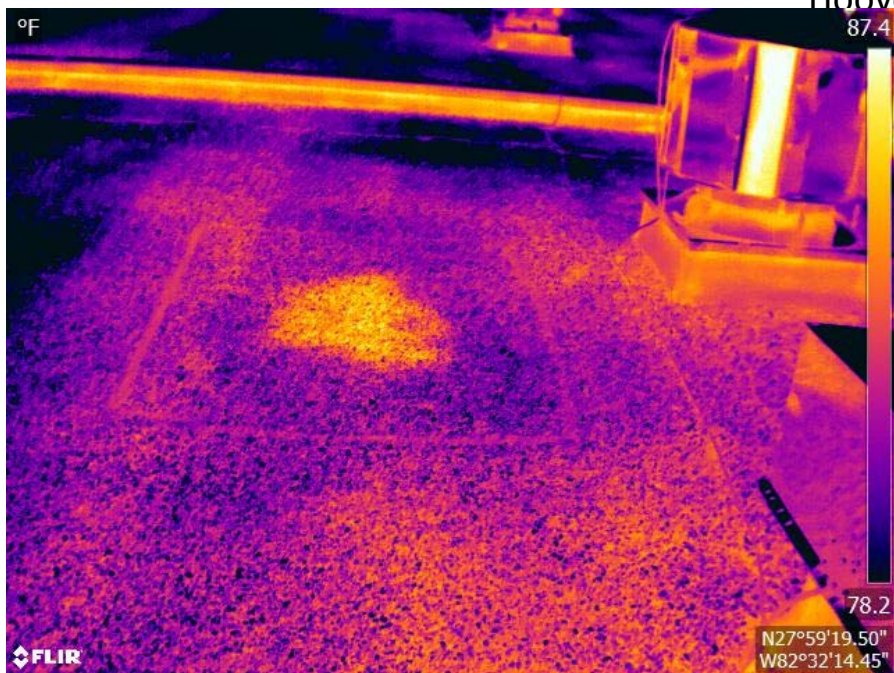
Size of Anomaly = 80 Sq. Ft.





Thermal Anomaly-23 on Roof -2

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:27:31 PM
IR Image: IR_1630.jpg

Size of Anomaly = 20 Sq. Ft.





Appendix-III

Roof-3

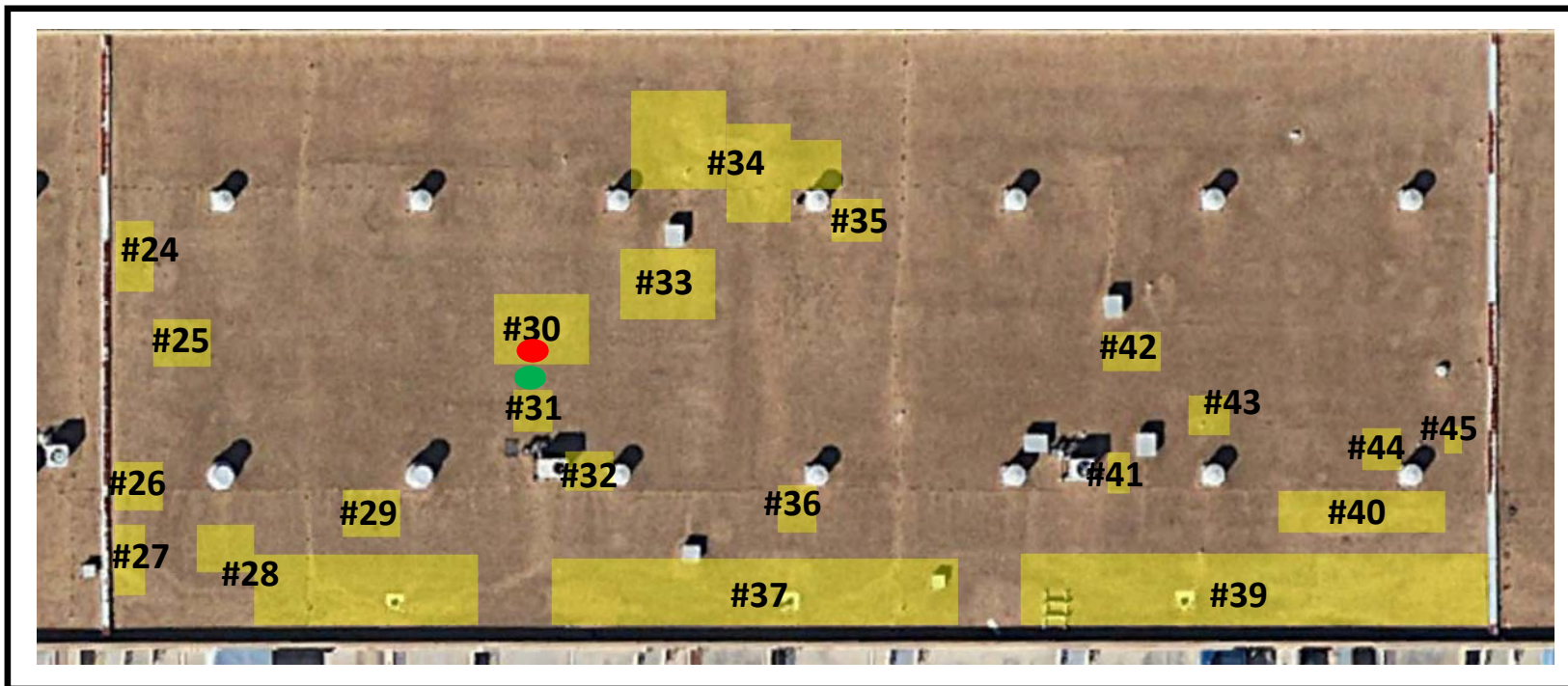
TIA North Cargo Building - 6720 North Hoover Blvd, Tampa

- Location of Thermal Anomalies / Core Cuts
 - Core Cut Results
 - Thermal / Visual Images of Anomalies



Location of Thermal Anomalies Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Location of Thermal Anomaly That Tested (+) for Elevated Moisture
ID # Corresponds to Report Image

Anomaly	24	25	26	27	28	29	30	31	32	33	34	35	36	37	39	40	41	42	43	44	45	
Size (Sq. Ft.)	75	24	20	50	195	25	70	6	56	50	116	43	15	490	650	160	12	15	21	16	2	
Total Area	2045																					
Total Roof Size	18690																					
% of Affected Roof	10.94%																					

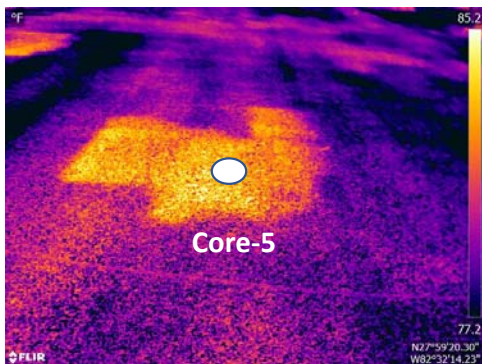
● Location of Core Cut – Red – Wet Insulation / Green Dry Insulation



Core Cuts 5 & 6 Roof-3 / Anomaly-30

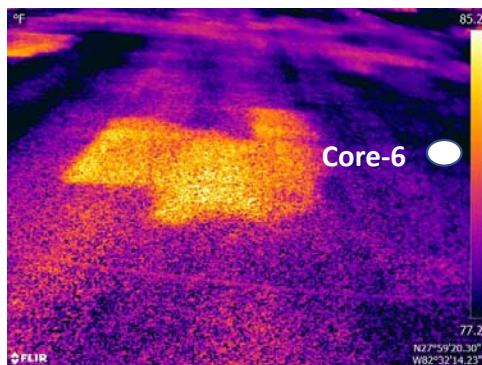
TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL

Core-5 Located at Anomaly-30 (10/5/2021)



Core located within wet area of Anomaly-30; Moisture Meter Results = **99.9%** comparative scale on upper layers of roof construction

Core-6 Located at Anomaly-30 (10/5/2021)

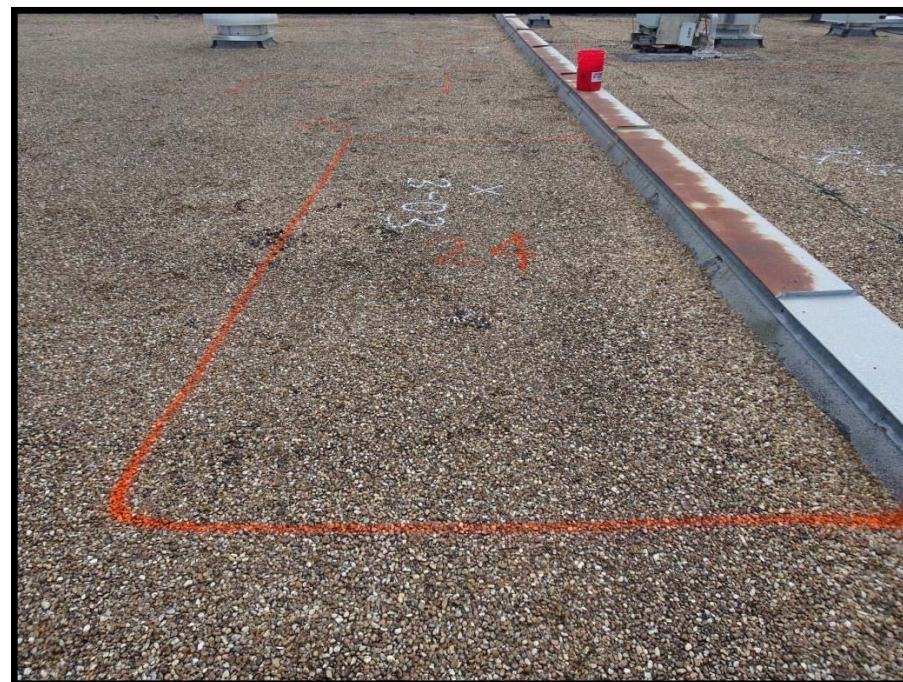
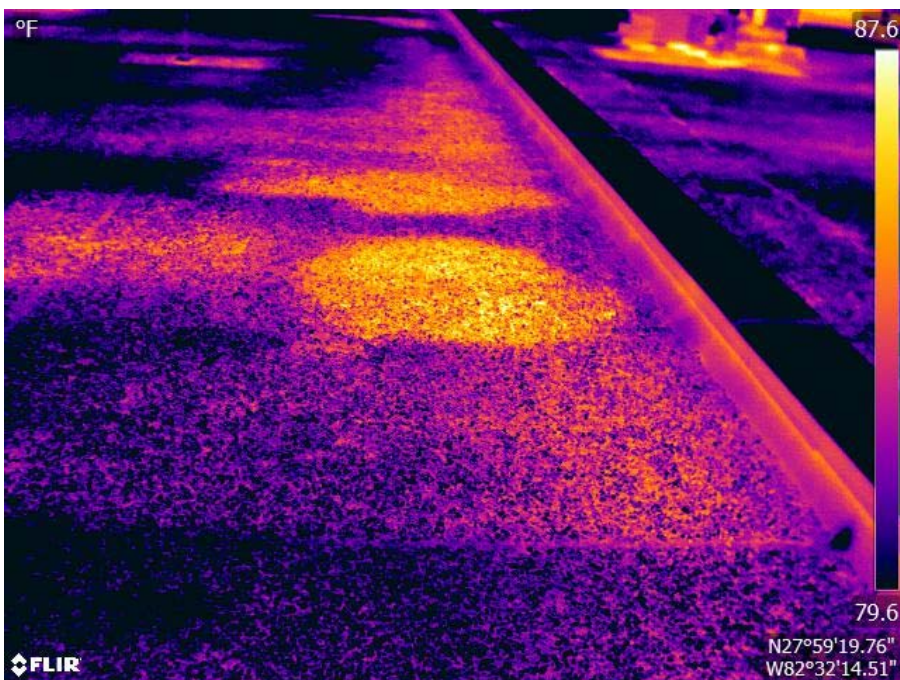


Core located outside of Anomaly-30; Moisture Meter Results = **10%** comparative scale



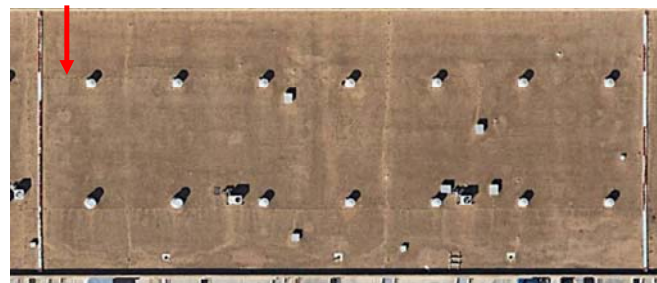
Thermal Anomaly-24 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:28:07 PM
IR Image: IR_1631.jpg

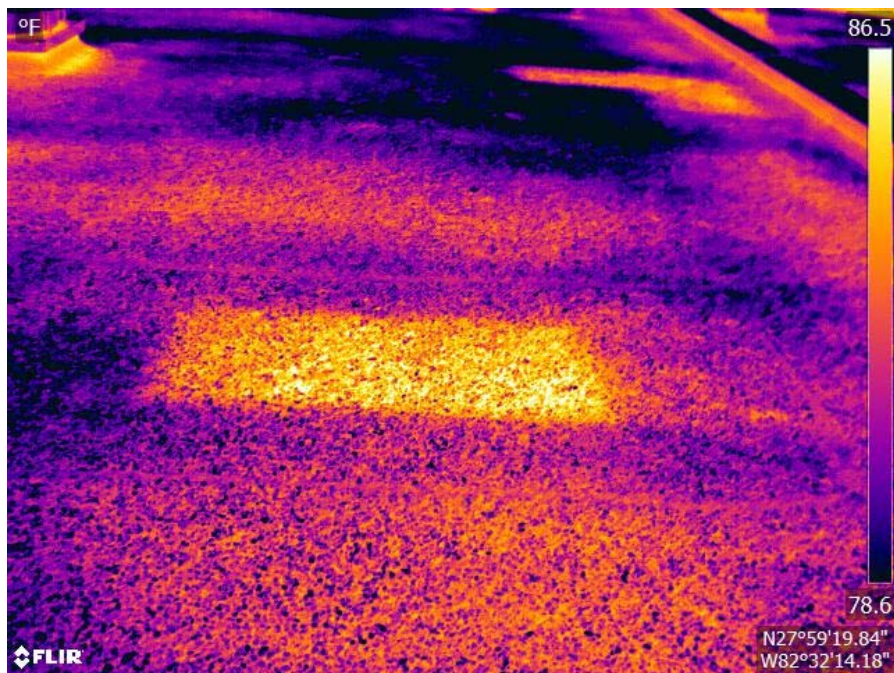
Size of Anomaly = 75 Sq. Ft.





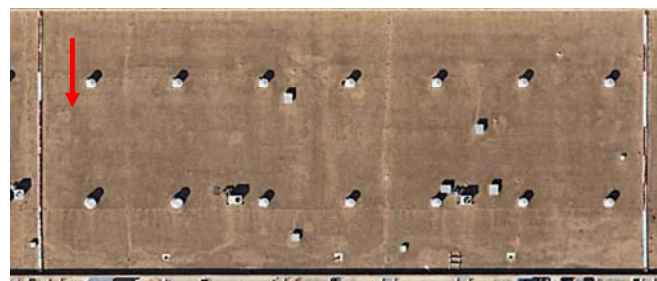
Thermal Anomaly-25 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:29:01 PM
IR Image: IR_1632.jpg

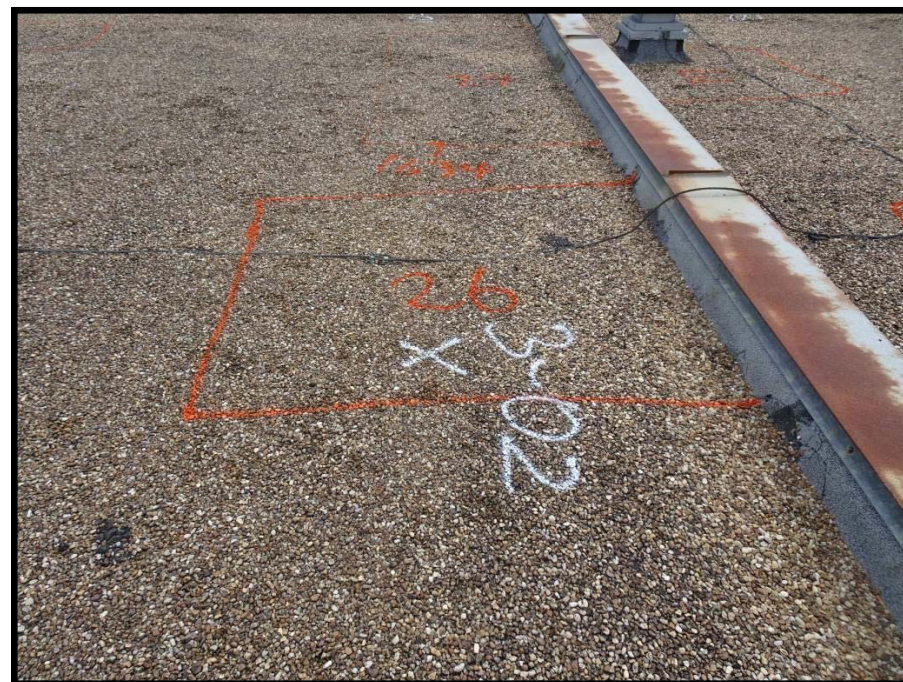
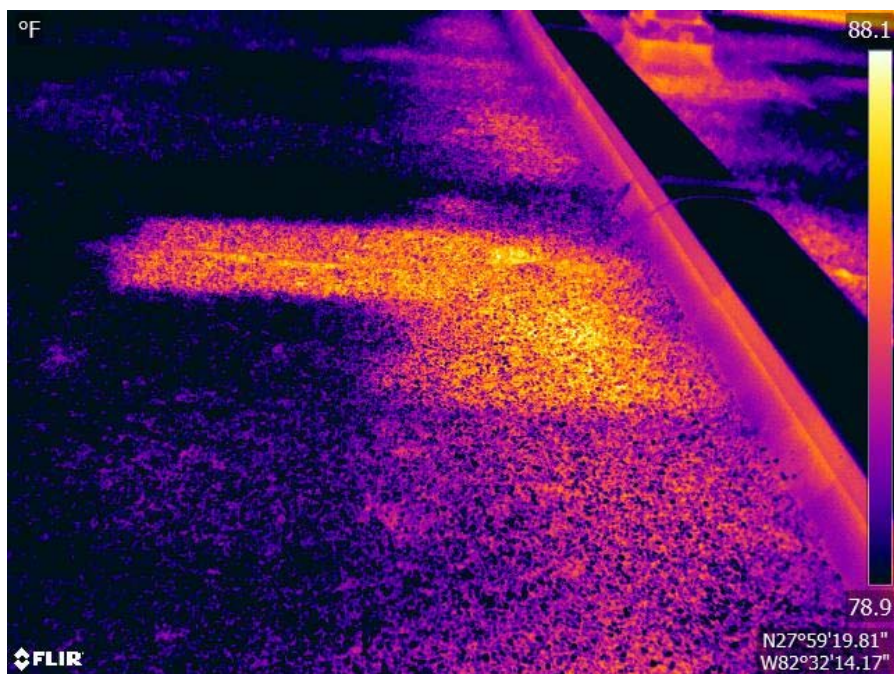
Size of Anomaly = 24 Sq. Ft.





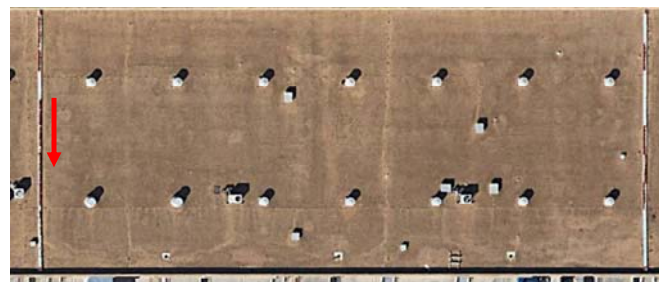
Thermal Anomaly-26 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:29:25 PM
IR Image: IR_1633.jpg

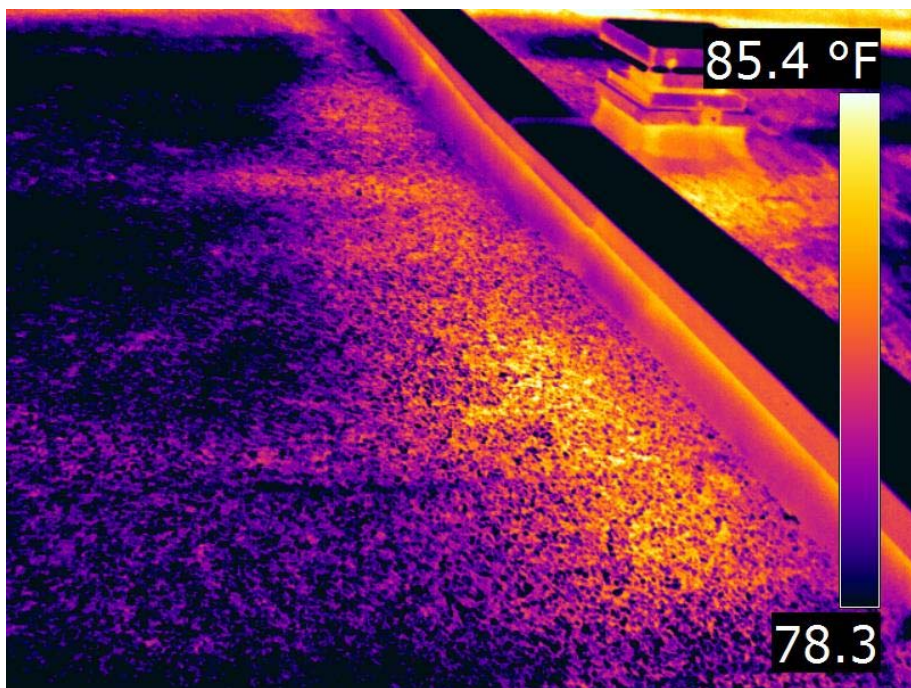
Size of Anomaly = 20 Sq. Ft.





Thermal Anomaly-27 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:30:54 PM
IR Image: IR_1634.jpg

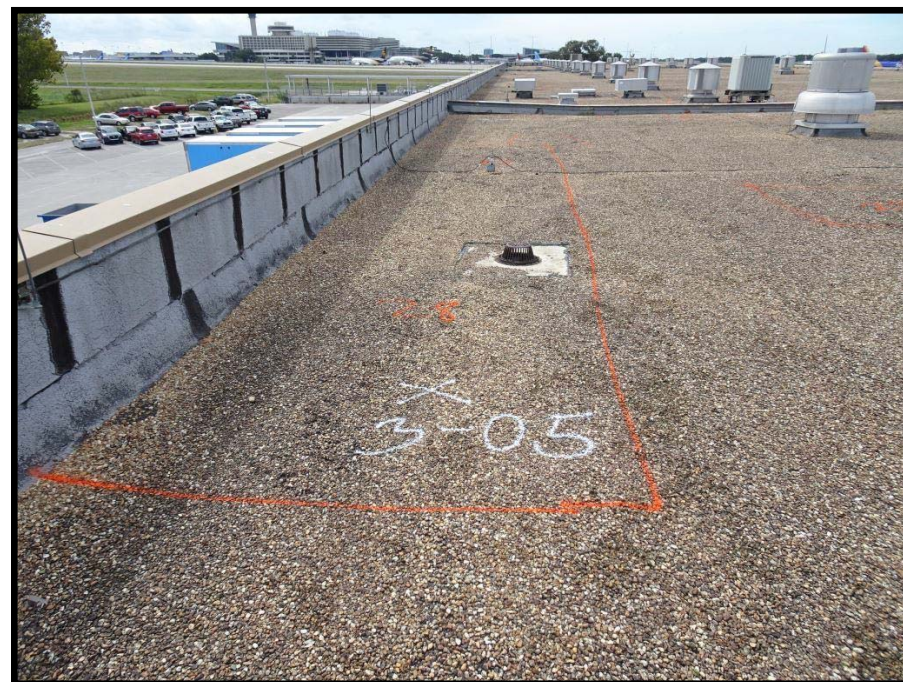
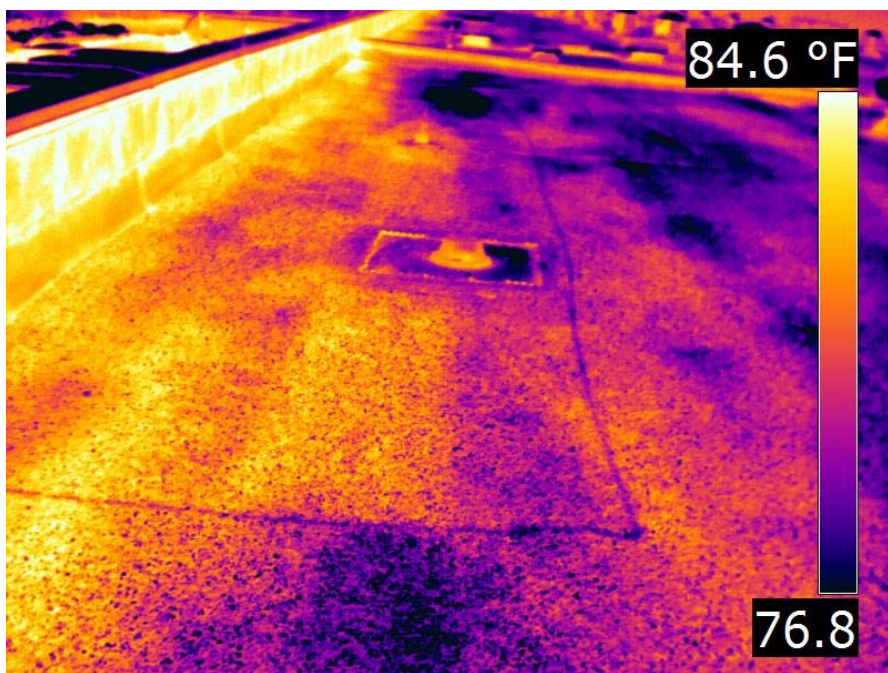
Size of Anomaly = 50 Sq. Ft.





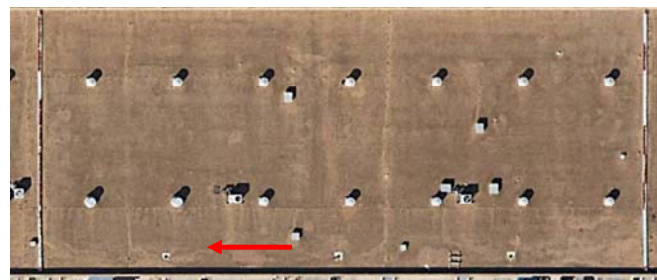
Thermal Anomaly-28 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:33:41 PM
IR Image: IR_1635.jpg

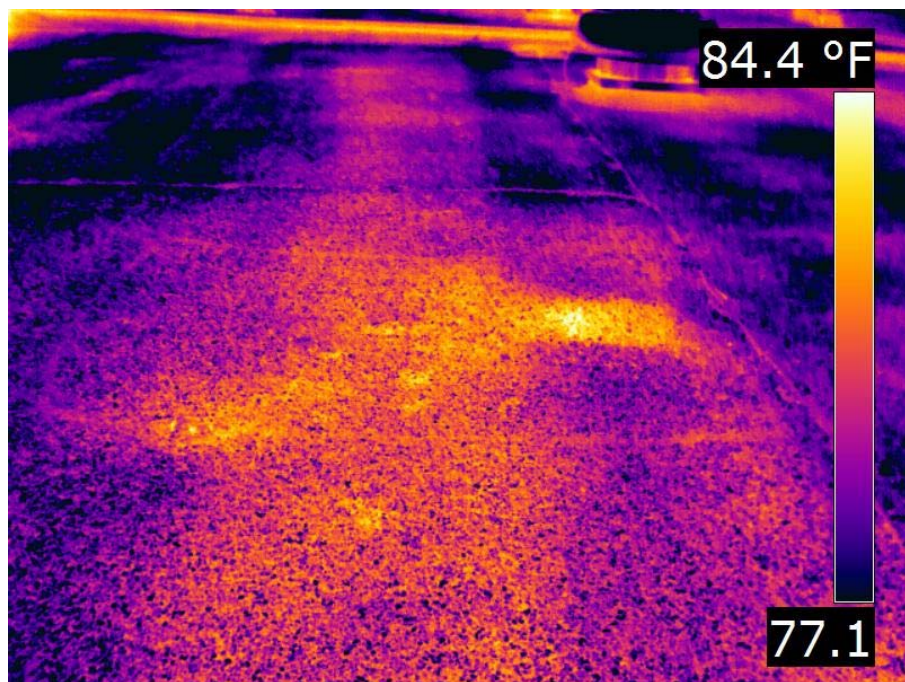
Size of Anomaly = 195 Sq. Ft.





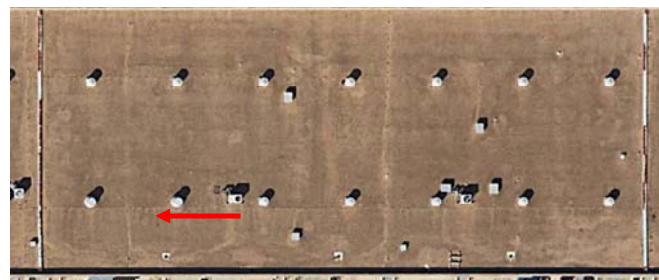
Thermal Anomaly-29 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:34:12 PM
IR Image: IR_1636.jpg

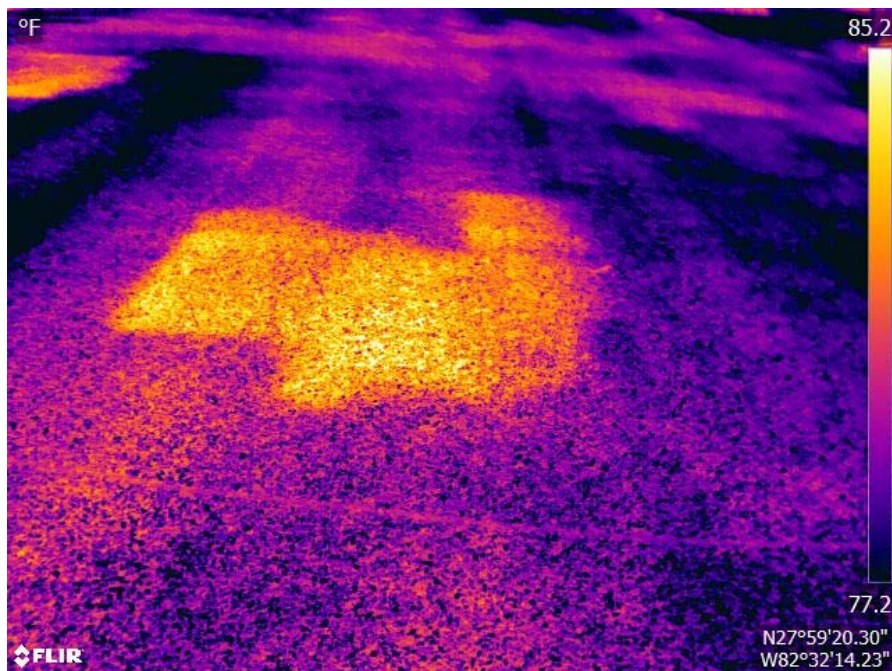
Size of Anomaly = 25 Sq. Ft.





Thermal Anomaly-30 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:34:12 PM
IR Image: IR_1637.jpg

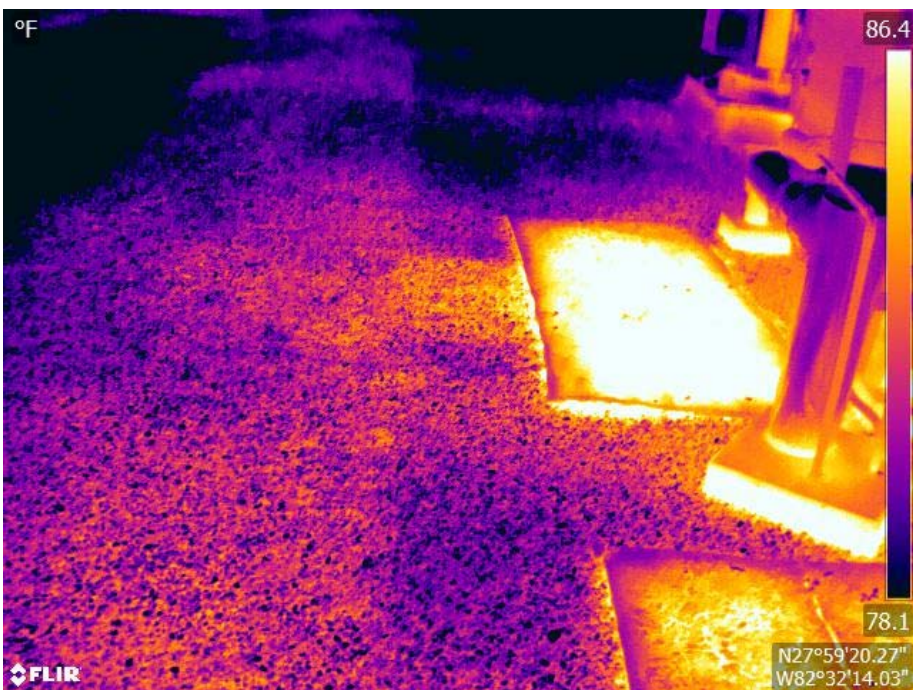
Size of Anomaly = 70 Sq. Ft.





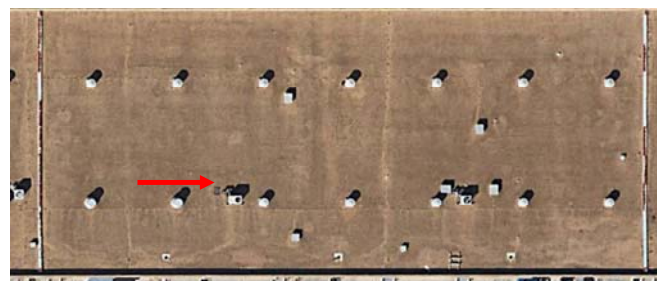
Thermal Anomaly-31 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:35:34 PM
IR Image: IR_1638.jpg

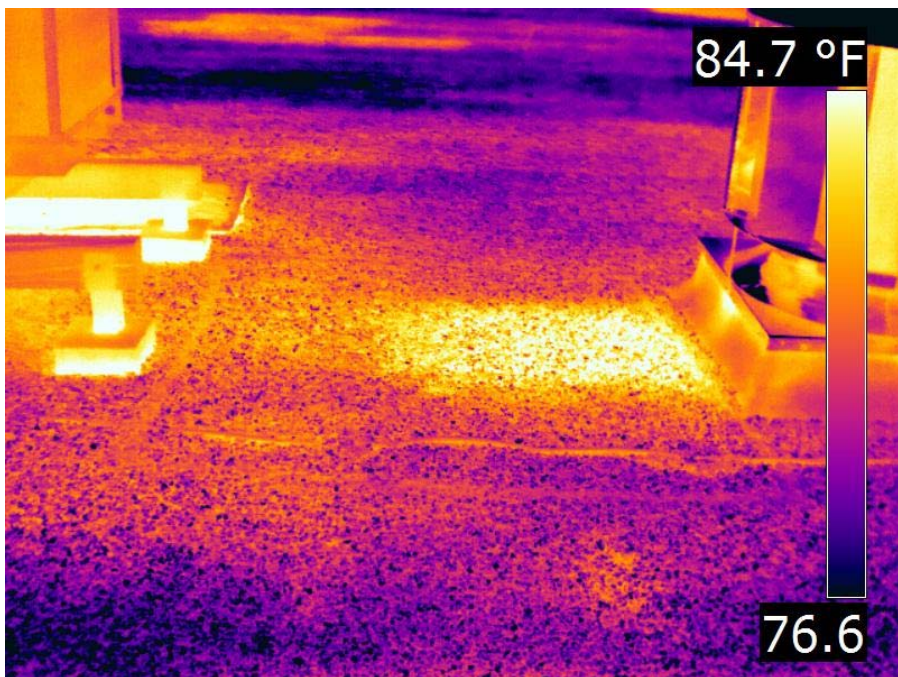
Size of Anomaly = 6 Sq. Ft.





Thermal Anomaly-32 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:36:03 PM
IR Image: IR_1639.jpg

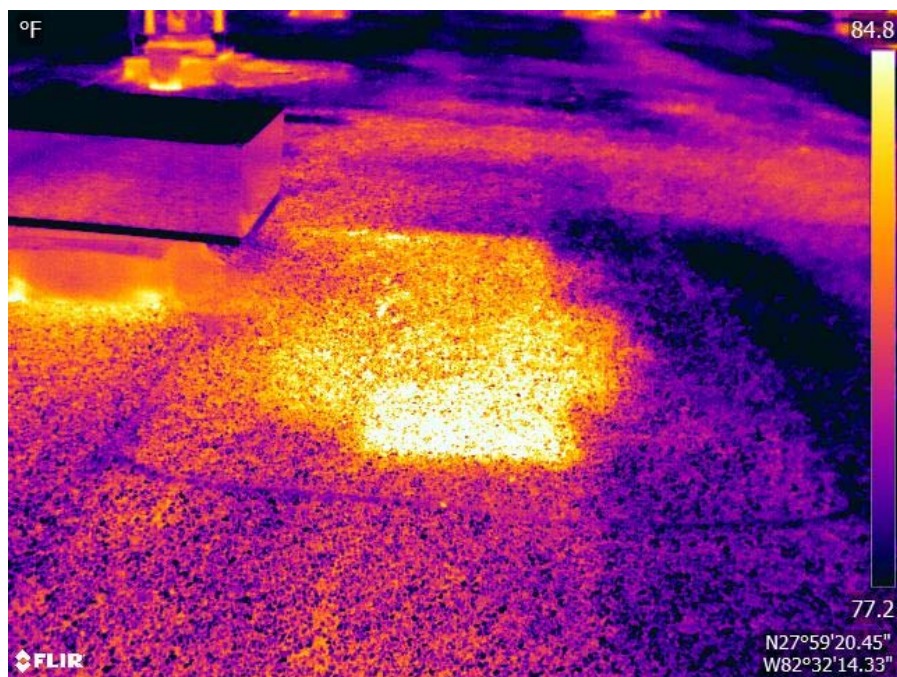
Size of Anomaly = 56 Sq. Ft.





Thermal Anomaly-33 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:36:45 PM
IR Image: IR_1640.jpg

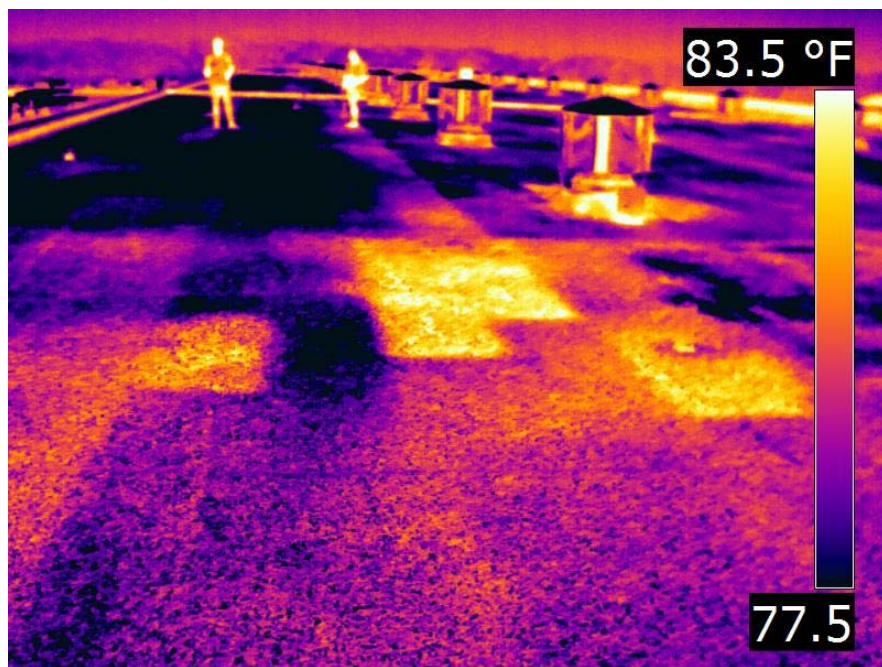
Size of Anomaly = 50 Sq. Ft.





Thermal Anomaly-34 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:38:13 PM
IR Image: IR_1641.jpg

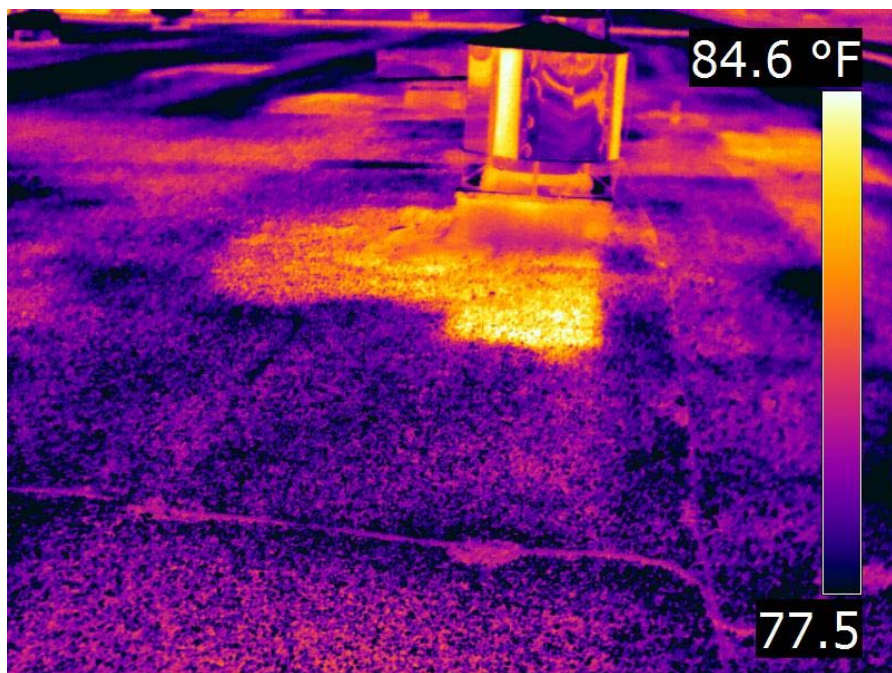
Size of Anomaly = 116 Sq. Ft.





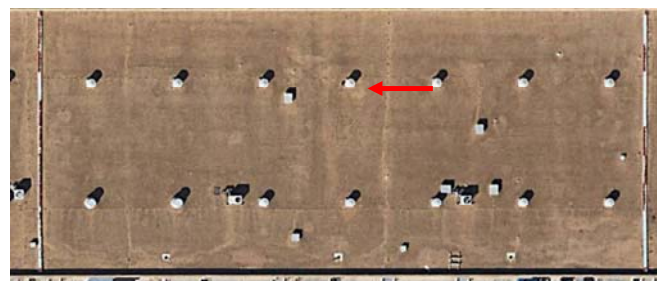
Thermal Anomaly-35 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:38:44 PM
IR Image: IR_1642.jpg

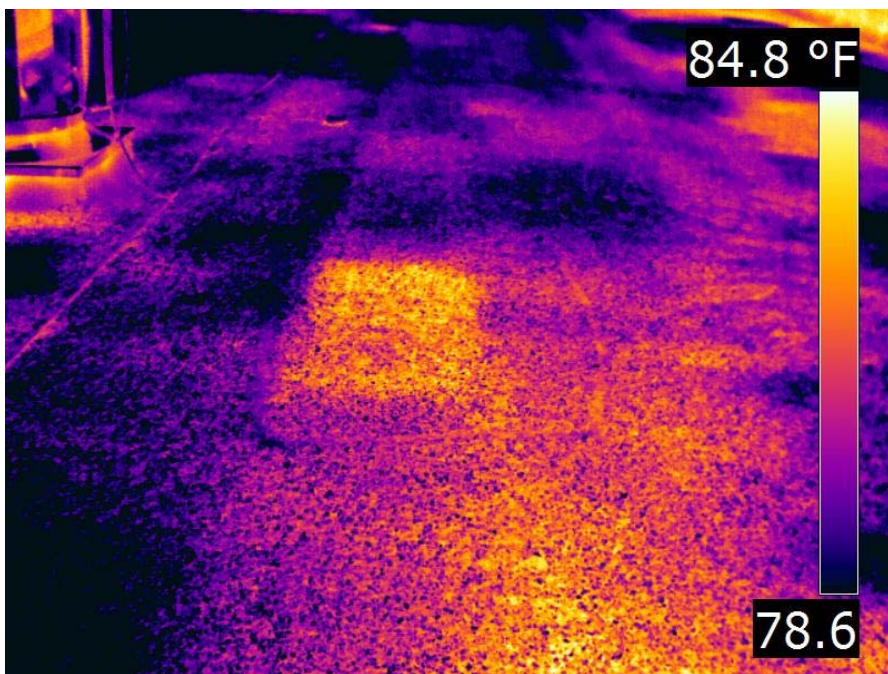
Size of Anomaly = 43 Sq. Ft.





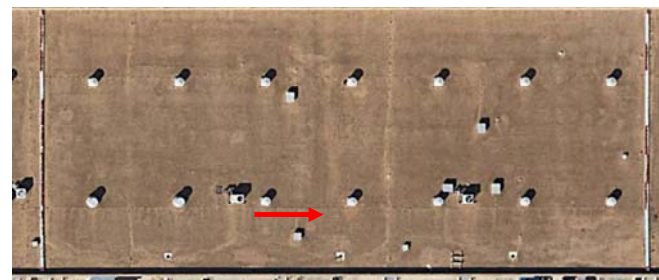
Thermal Anomaly-36 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:39:36 PM
IR Image: IR_1643.jpg

Size of Anomaly = 15 Sq. Ft.





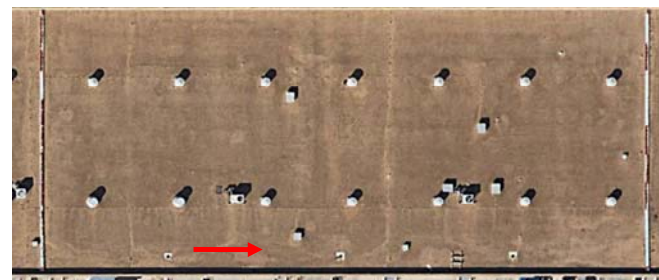
Thermal Anomaly-37 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:41:18 PM
IR Image: IR_1644.jpg

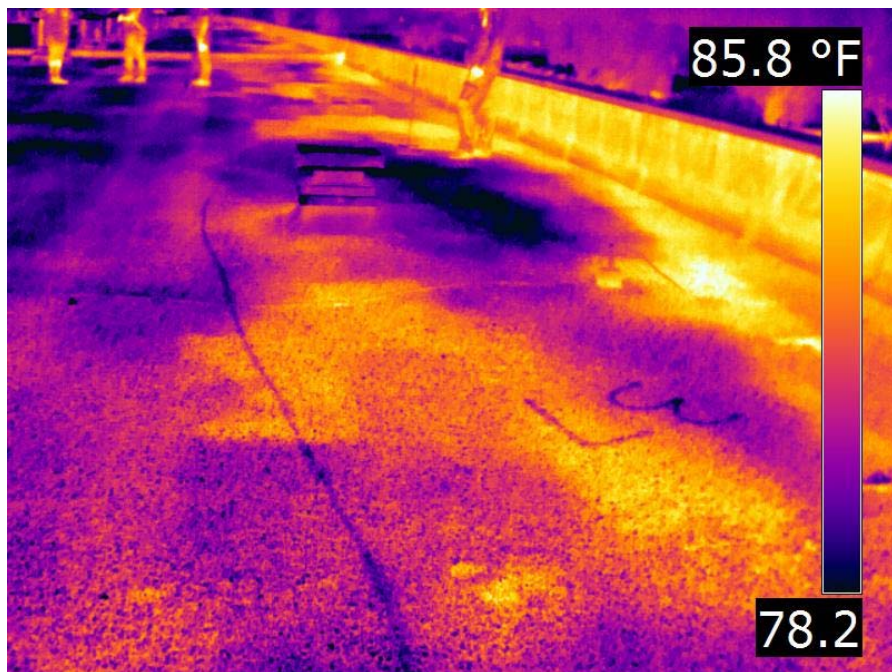
Size of Anomaly = 490 Sq. Ft.





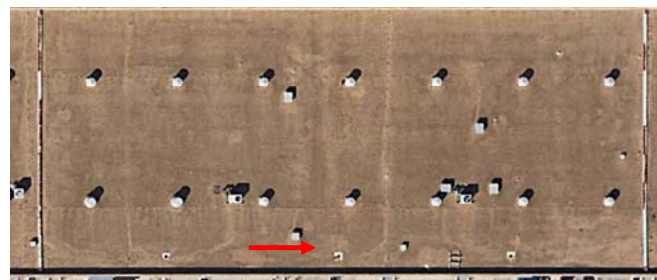
Thermal Anomaly-38 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:41:44 PM
IR Image: IR_1645.jpg

Size of Anomaly = 490 Sq. Ft.





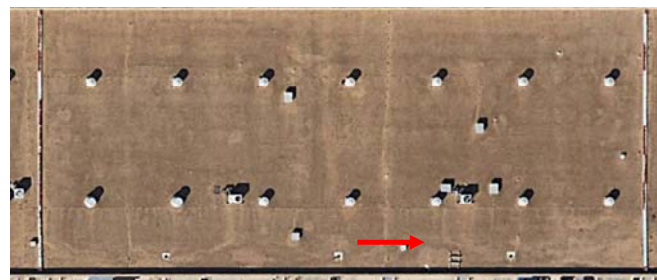
Thermal Anomaly-39 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:43:19 PM
IR Image: IR_1646.jpg

Size of Anomaly = 650 Sq. Ft.





Thermal Anomaly-40 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:44:02 PM
IR Image: IR_1647.jpg

Size of Anomaly = 160 Sq. Ft.





Thermal Anomaly-41 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:44:33 PM
IR Image: IR_1648.jpg

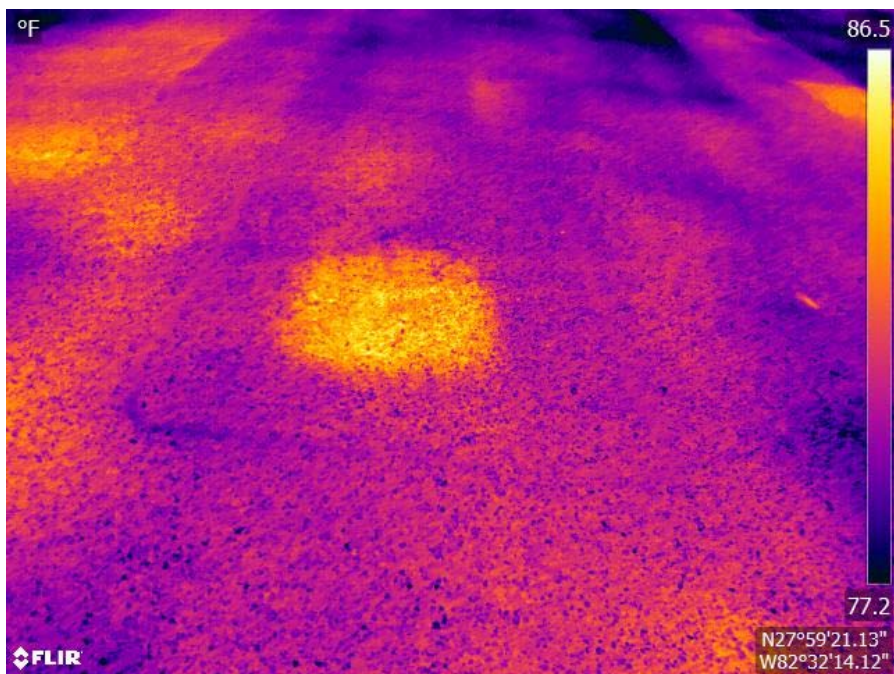
Size of Anomaly = 12 Sq. Ft.





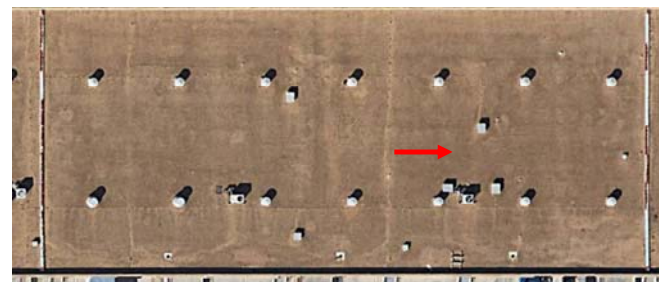
Thermal Anomaly-42 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:44:33 PM
IR Image: IR_1649.jpg

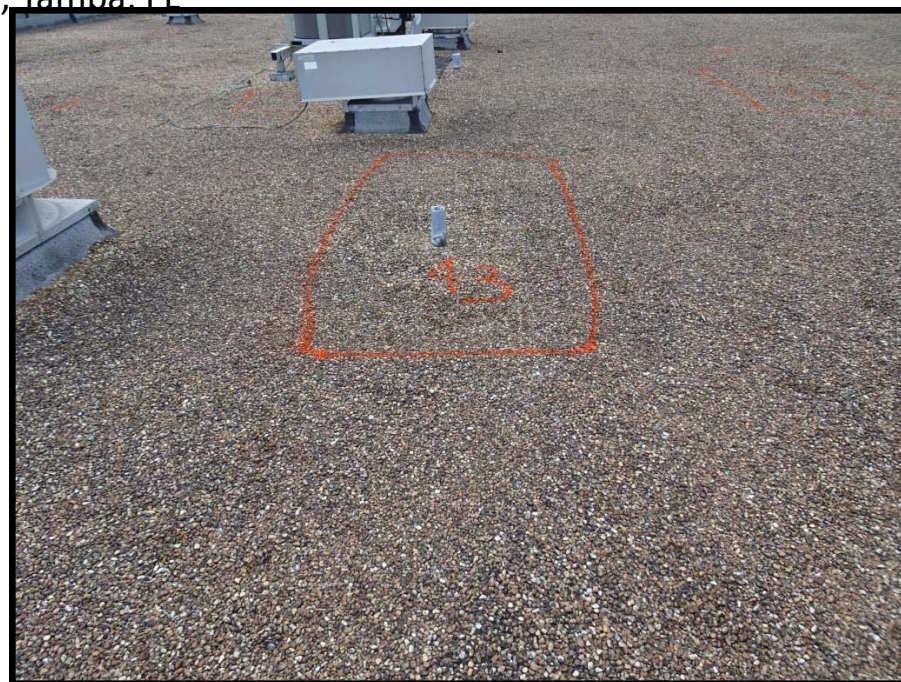
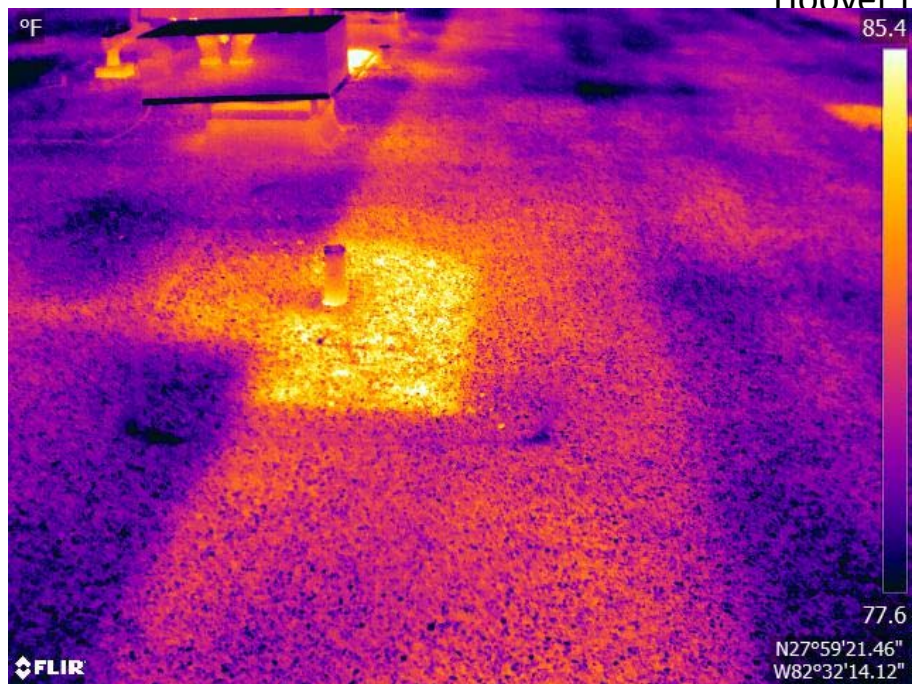
Size of Anomaly = 15 Sq. Ft.





Thermal Anomaly-43 on Roof -3

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:45:38 PM
IR Image: IR_1650.jpg

Size of Anomaly = 21 Sq. Ft.





Thermal Anomaly-44 on Roof -3

TIA North Cargo Bld. - 6720 North
Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:46:07 PM
IR Image: IR_1651.jpg

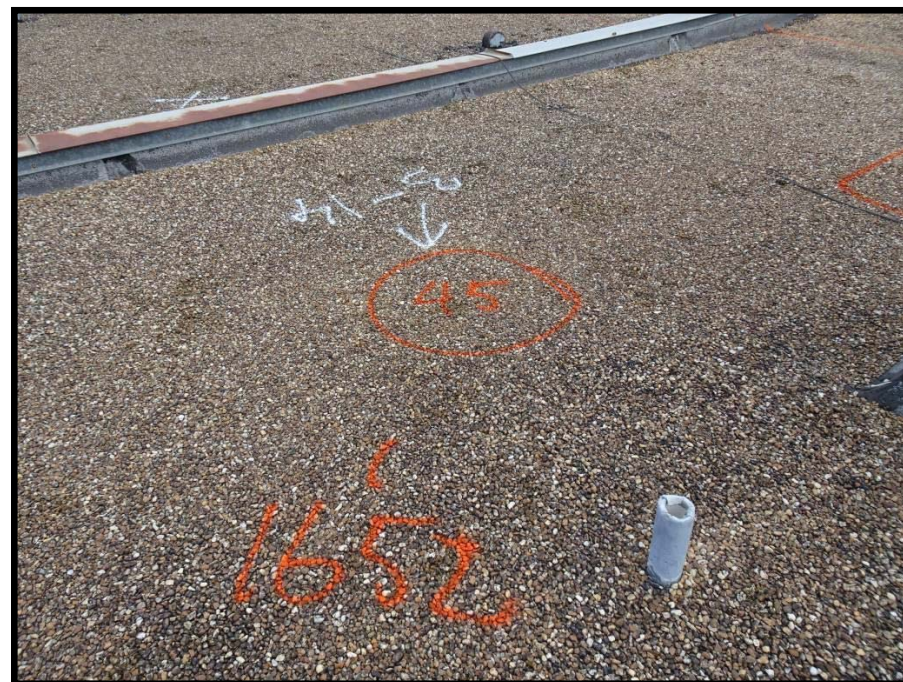
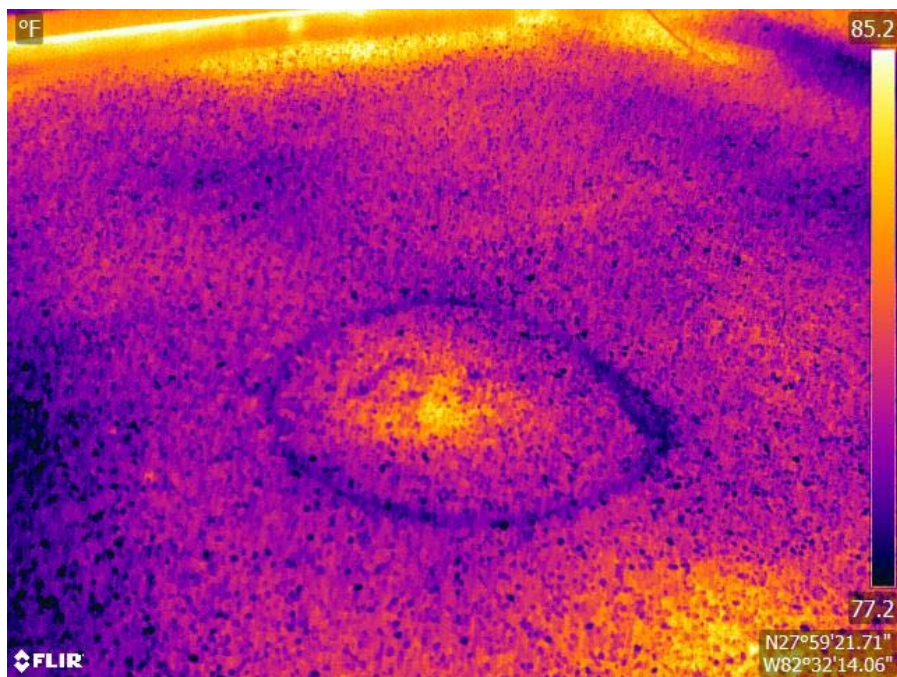
Size of Anomaly = 16 Sq. Ft.





Thermal Anomaly-45 on Roof -3

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:46:43 PM
IR Image: IR_1651.jpg

Size of Anomaly = 2 Sq. Ft.





Appendix-IV

Roof-4

TIA North Cargo Building - 6720 North Hoover Blvd, Tampa

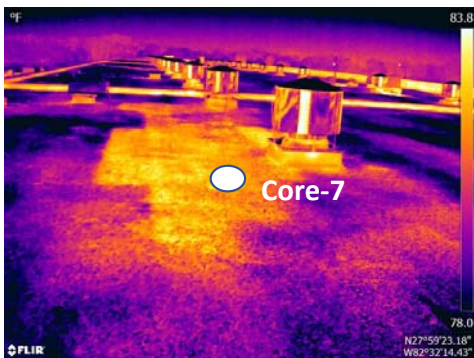
- Location of Thermal Anomalies / Core Cuts
 - Core Cut Results
 - Thermal / Visual Images of Anomalies



Core Cuts 7 & 8 Roof-4 / Anomaly-56

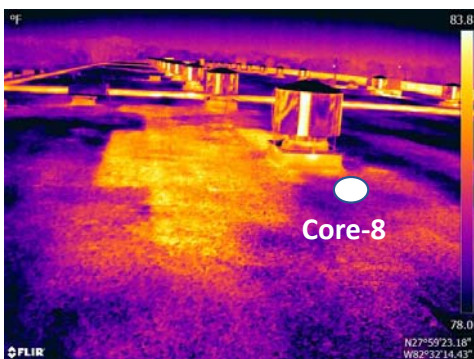
TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL

Core-7 Located at Anomaly-56 (10/5/2021)



Core located within wet area of Anomaly-56; Moisture Meter Results = **77.9%** comparative scale on upper layers of roof construction

Core-8 Located at Anomaly-56 (10/5/2021)

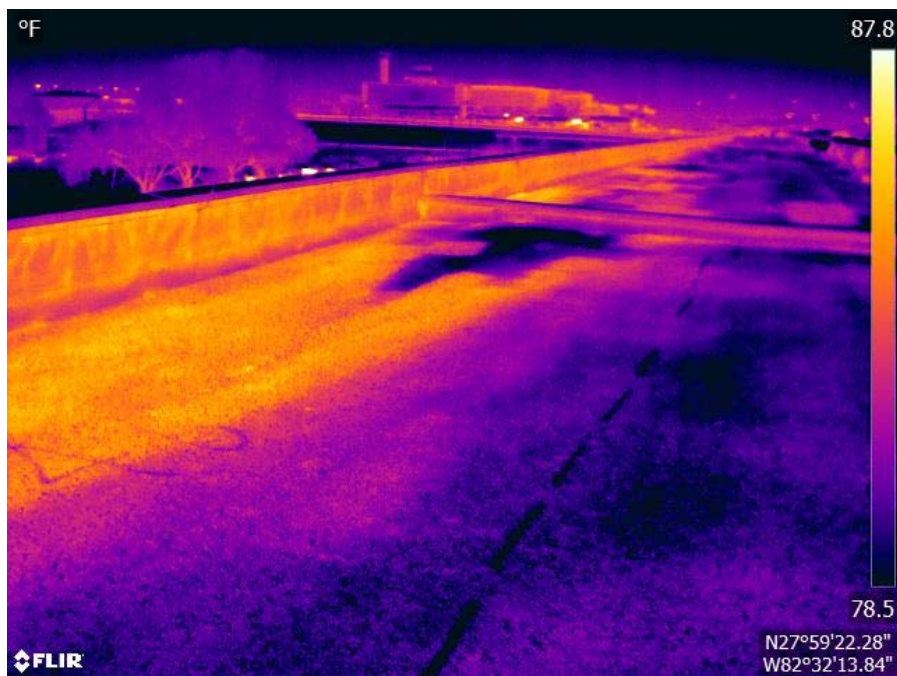


Core located outside of Anomaly-56; Moisture Meter Results = **29.4%** comparative scale



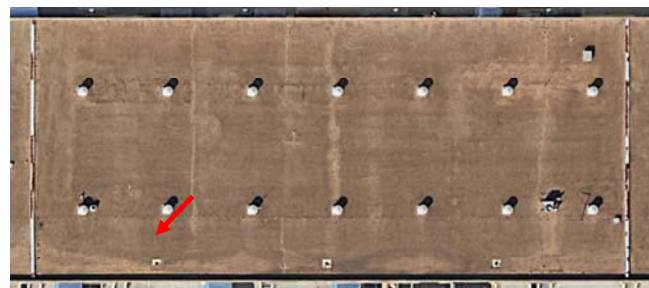
Thermal Anomaly-46 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:52:38 PM
IR Image: IR_1653.jpg

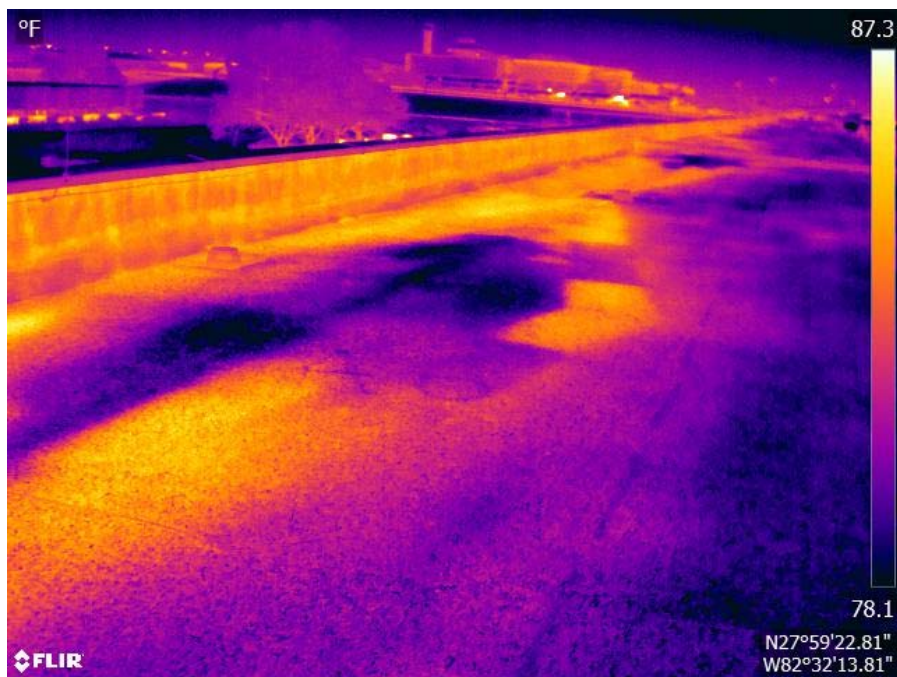
Size of Anomaly = 2520 Sq. Ft.





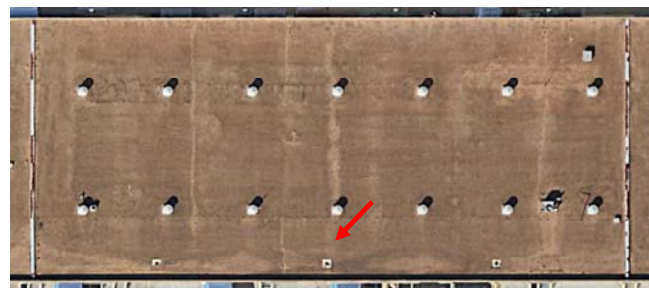
Thermal Anomaly-46 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:53:26 PM
IR Image: IR_1654.jpg

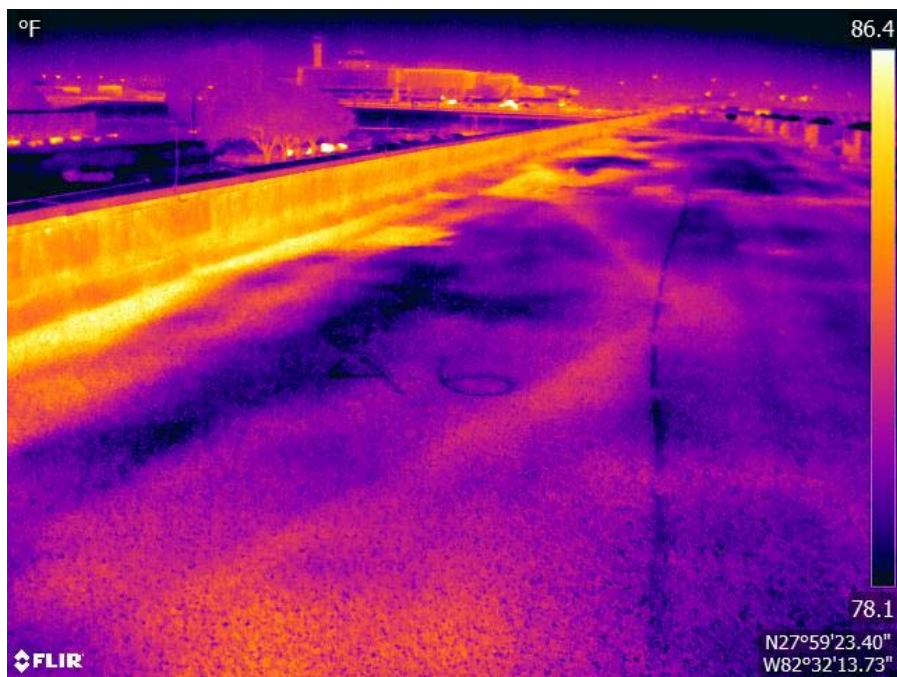
Size of Anomaly = 2520 Sq. Ft.





Thermal Anomaly-46 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:53:26 PM
IR Image: IR_1655.jpg

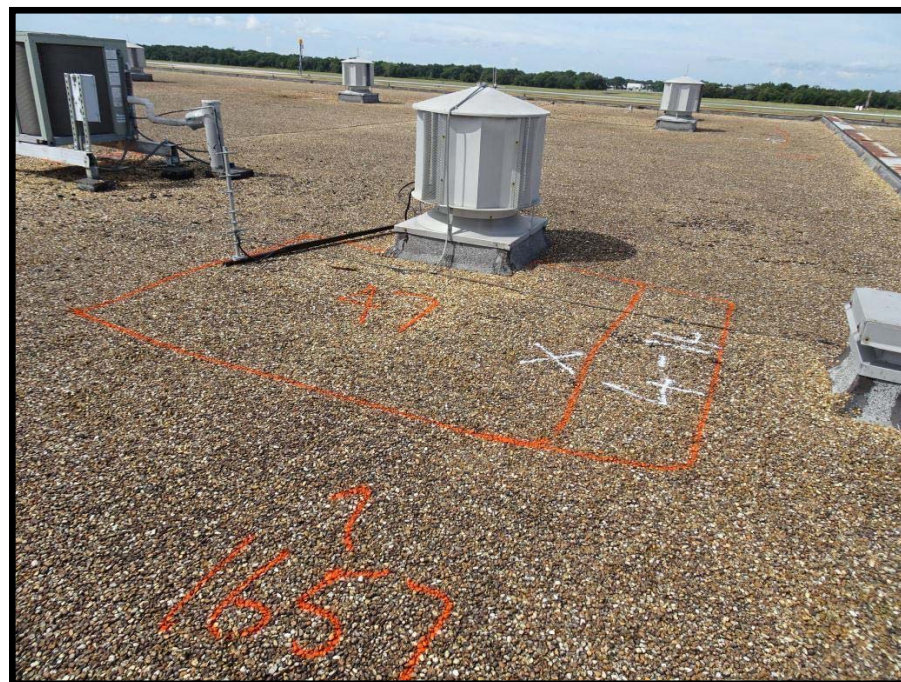
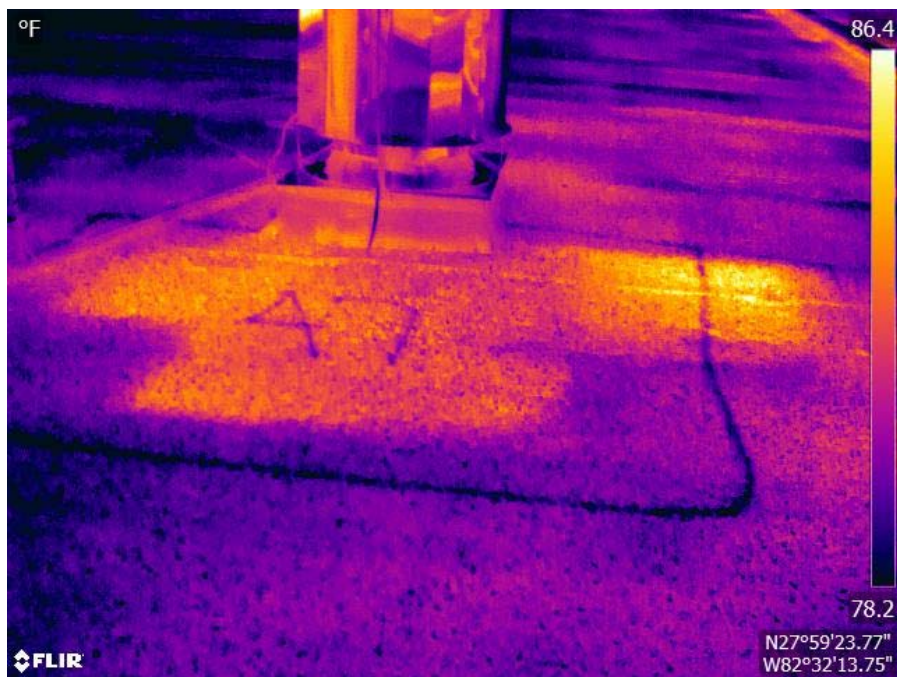
Size of Anomaly = 2520 Sq. Ft.





Thermal Anomaly-47 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:56:13 PM
IR Image: IR_1657.jpg

Size of Anomaly = 50 Sq. Ft.





Thermal Anomaly-48 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:56:55 PM
IR Image: IR_1658.jpg

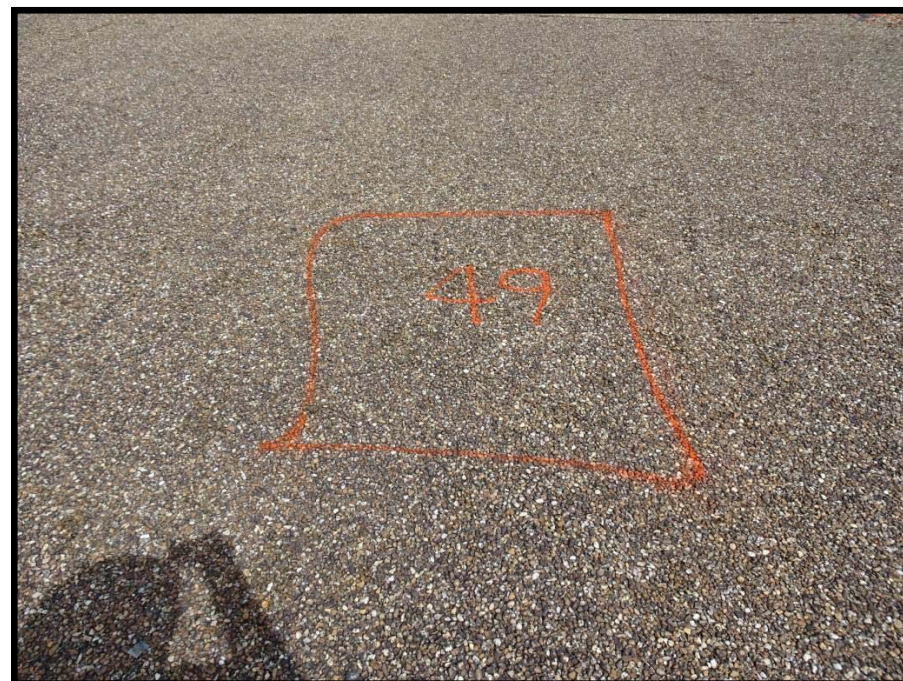
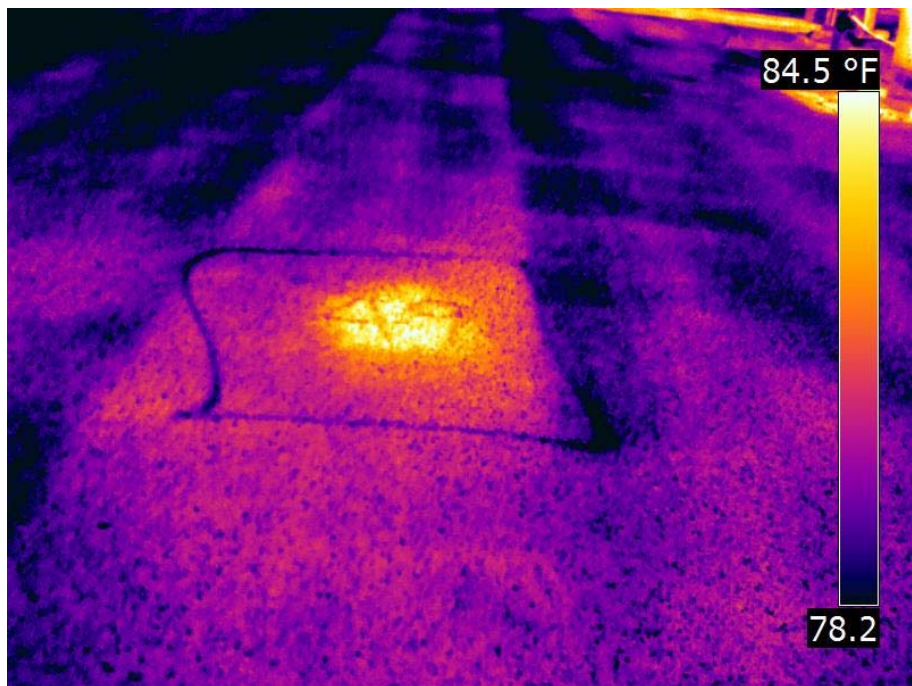
Size of Anomaly = 6 Sq. Ft.





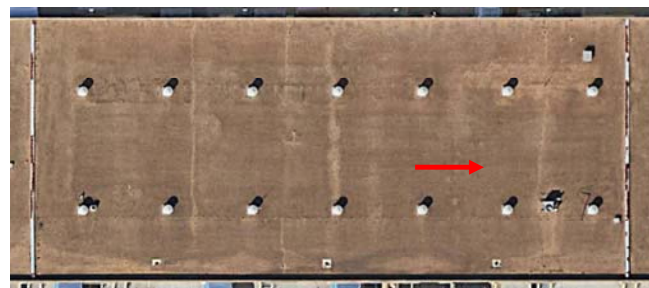
Thermal Anomaly-49 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:57:40 PM
IR Image: IR_1659.jpg

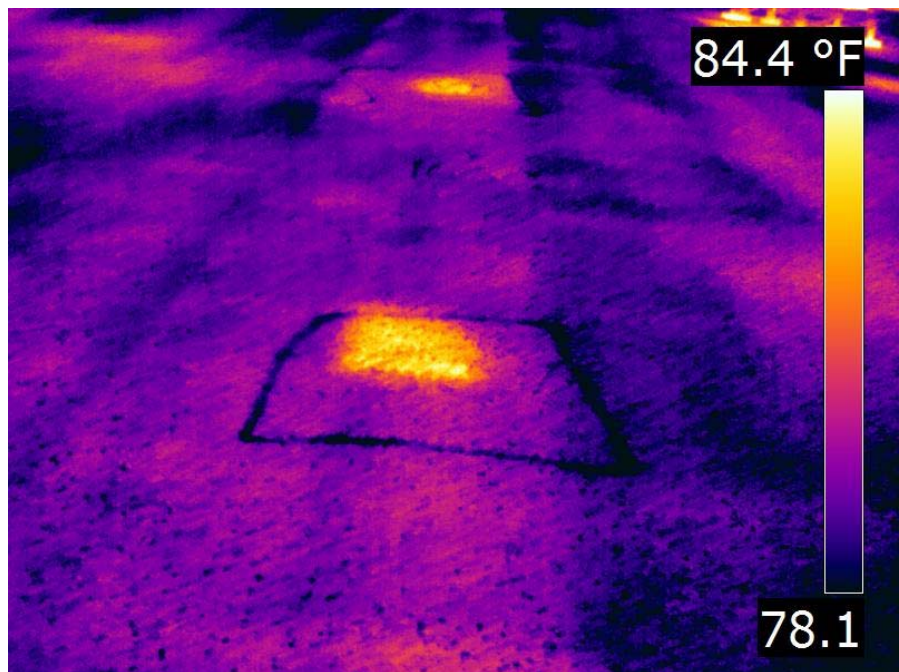
Size of Anomaly = 15 Sq. Ft.





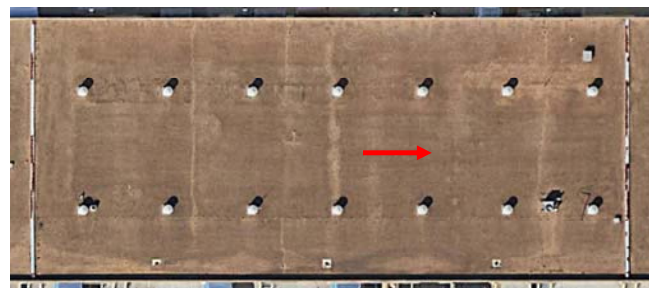
Thermal Anomaly-50 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:58:10 PM
IR Image: IR_1660.jpg

Size of Anomaly = 9 Sq. Ft.





Thermal Anomaly-51 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:59:24 PM
IR Image: IR_1661.jpg

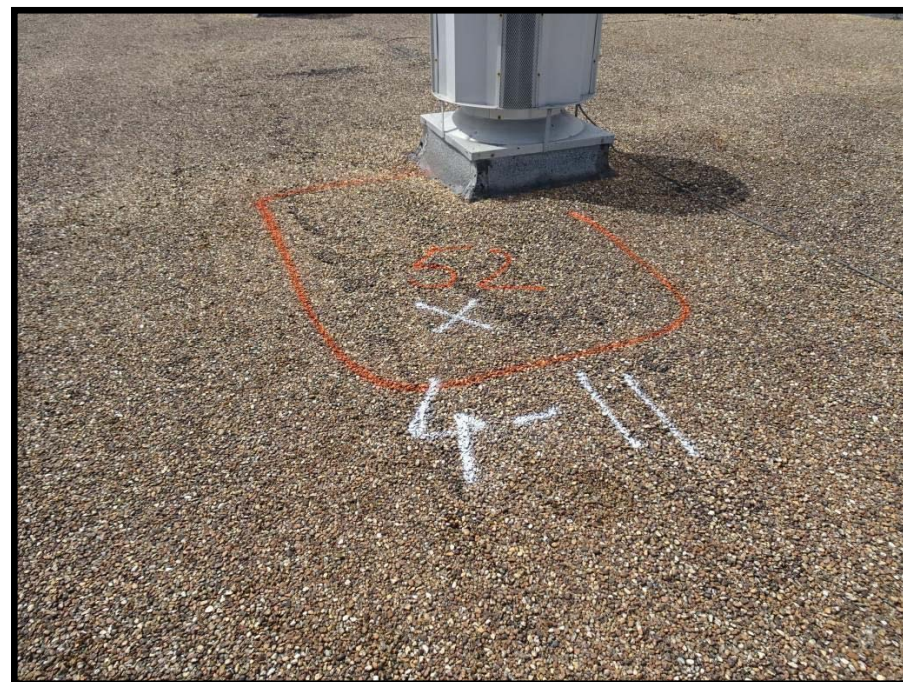
Size of Anomaly = 25 Sq. Ft.





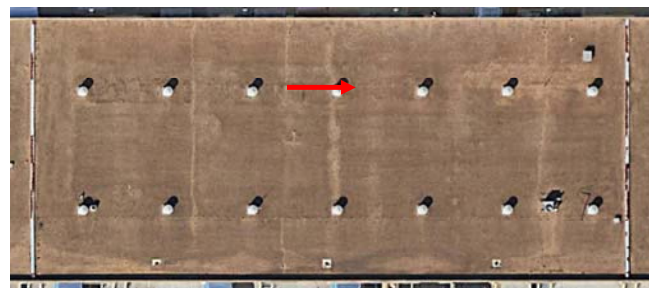
Thermal Anomaly-52 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 8:59:55 PM
IR Image: IR_1662.jpg

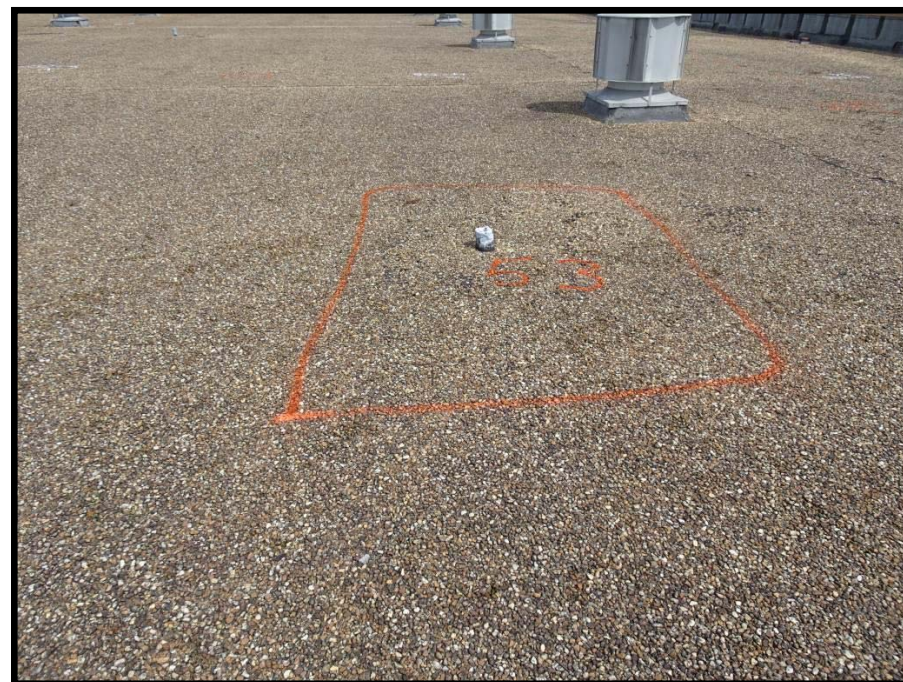
Size of Anomaly = 15 Sq. Ft.





Thermal Anomaly-53 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:01:54 PM
IR Image: IR_1663.jpg

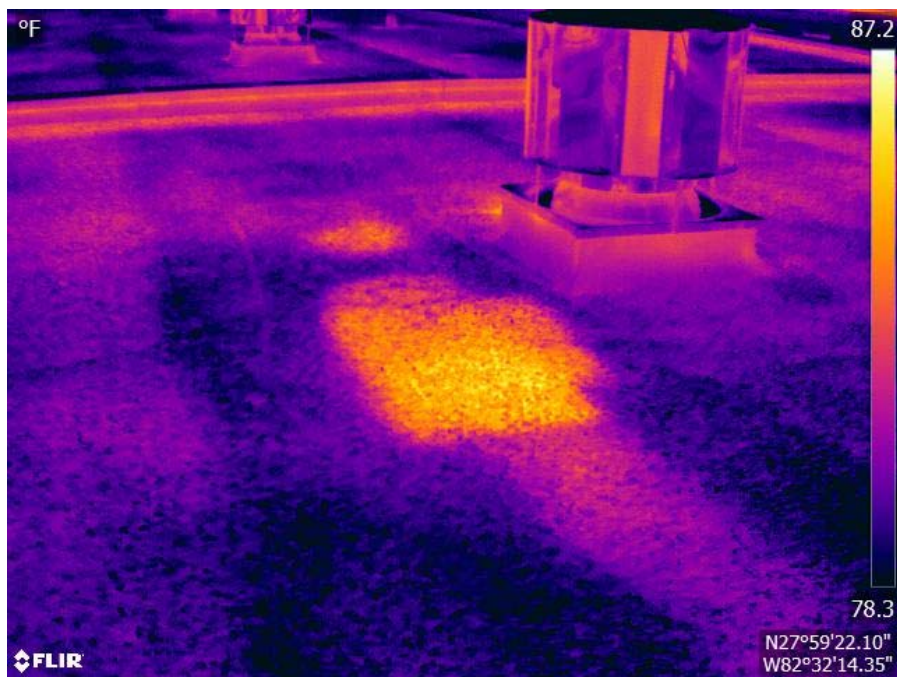
Size of Anomaly = 40 Sq. Ft.





Thermal Anomaly-54 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:01:54 PM
IR Image: IR_1664.jpg

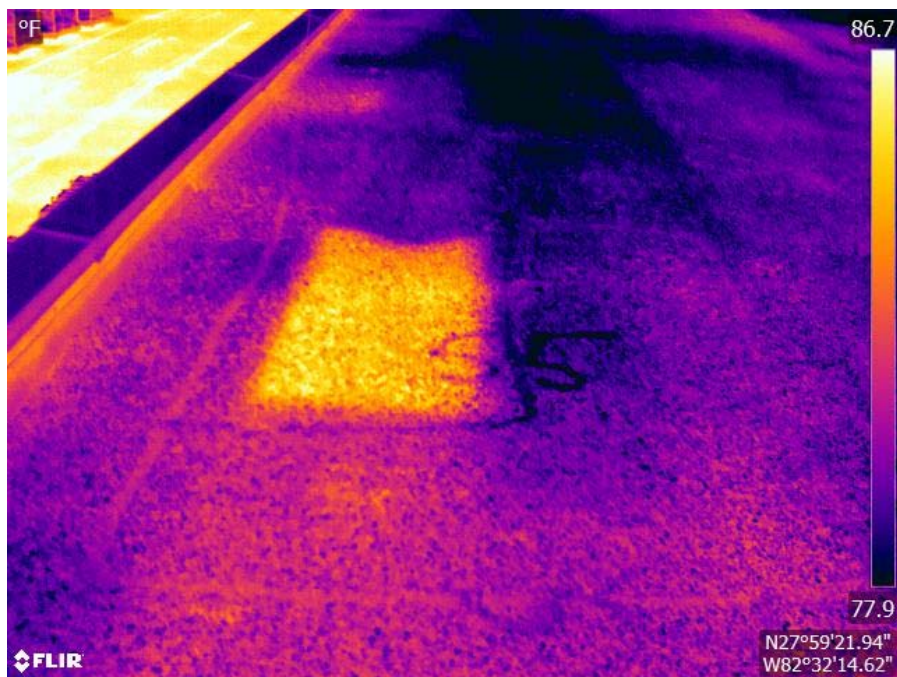
Size of Anomaly = 30 Sq. Ft.





Thermal Anomaly-55 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:03:02 PM
IR Image: IR_1665.jpg

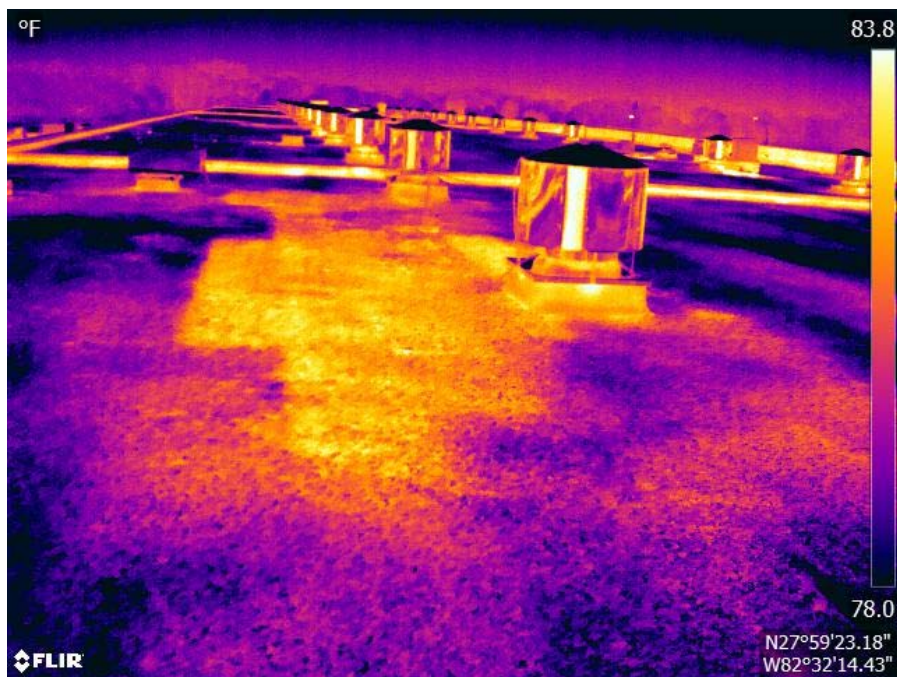
Size of Anomaly = 25 Sq. Ft.





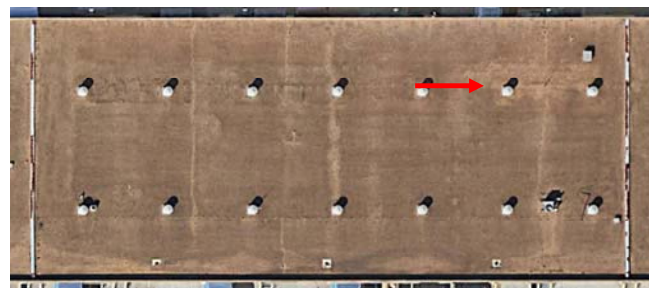
Thermal Anomaly-56 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:04:22 PM
IR Image: IR_1666.jpg

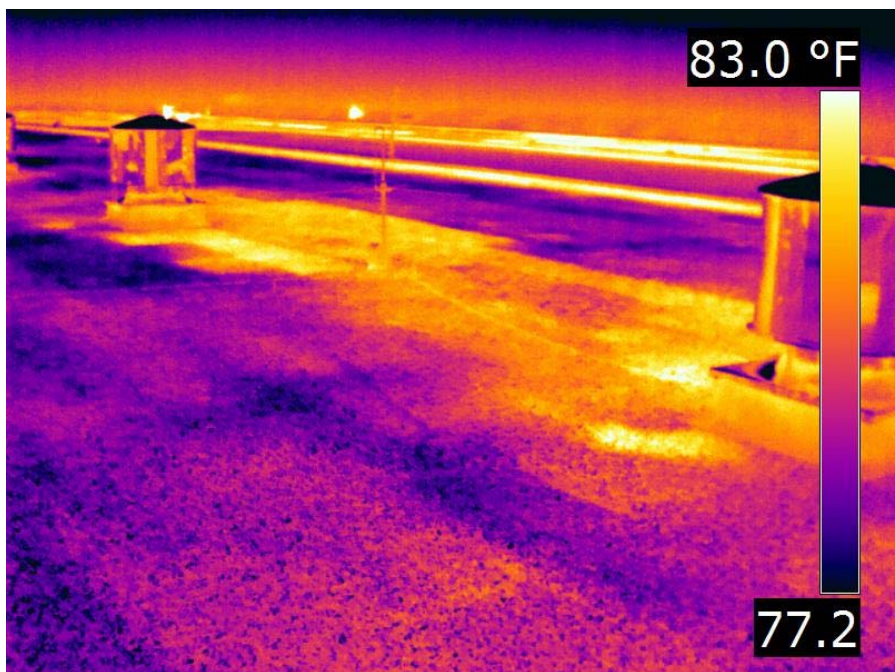
Size of Anomaly = 825 Sq. Ft.





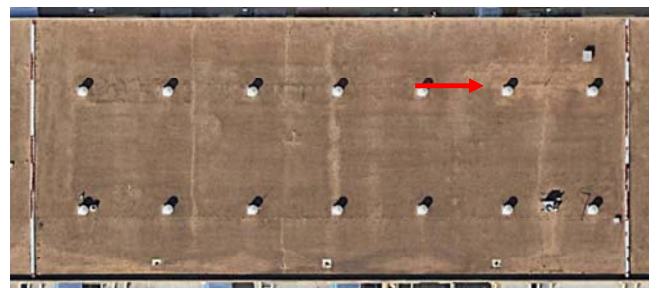
Thermal Anomaly-56 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:05:38 PM
IR Image: IR_1657.jpg

Size of Anomaly = 825 Sq. Ft.





Appendix-V

Roof-5

TIA North Cargo Building - 6720 North Hoover Blvd, Tampa

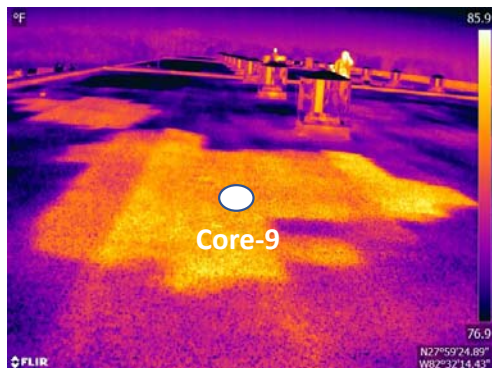
- Location of Thermal Anomalies / Core Cuts
 - Core Cut Results
 - Thermal / Visual Images of Anomalies



Core Cuts 9 & 10 Roof-5 / Anomaly-66

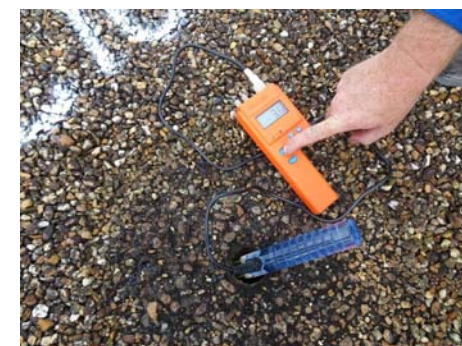
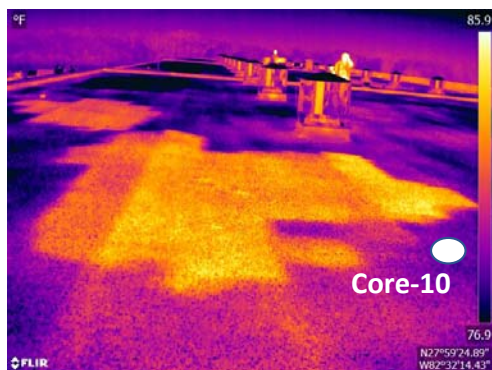
TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL

Core-9 Located at Anomaly-66 (10/5/2021)



Core located within wet area of Anomaly-66; Moisture Meter Results = **71.6%** comparative scale on upper layers of roof construction

Core-10 Located at Anomaly-66 (10/5/2021)

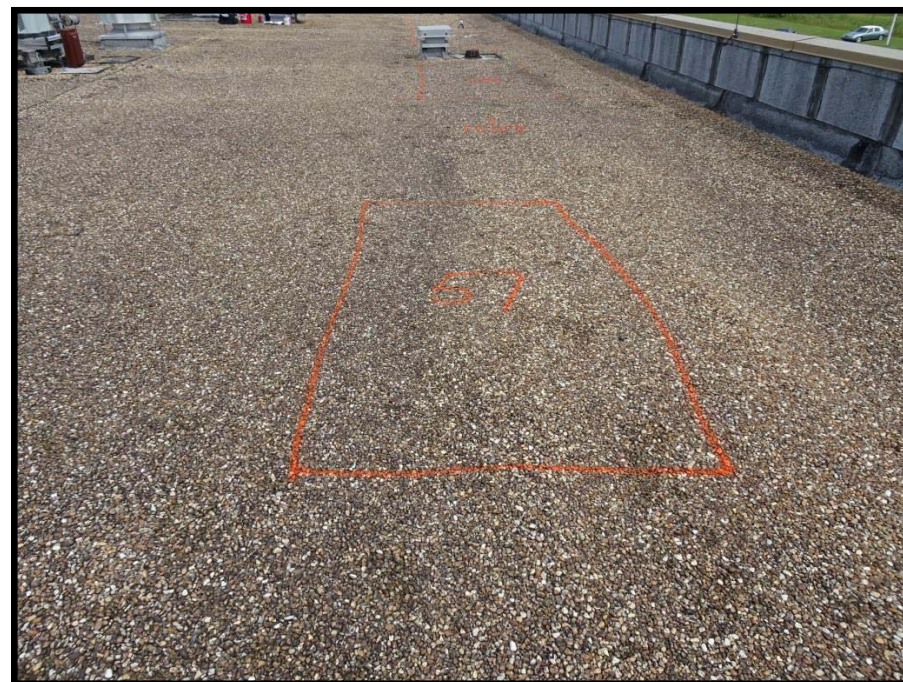


Core located outside of Anomaly-66; Moisture Meter Results = **3.6%** comparative scale



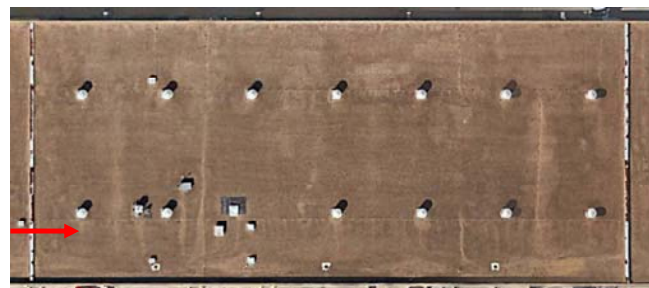
Thermal Anomaly-57 on Roof -5

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:06:42 PM
IR Image: IR_1668.jpg

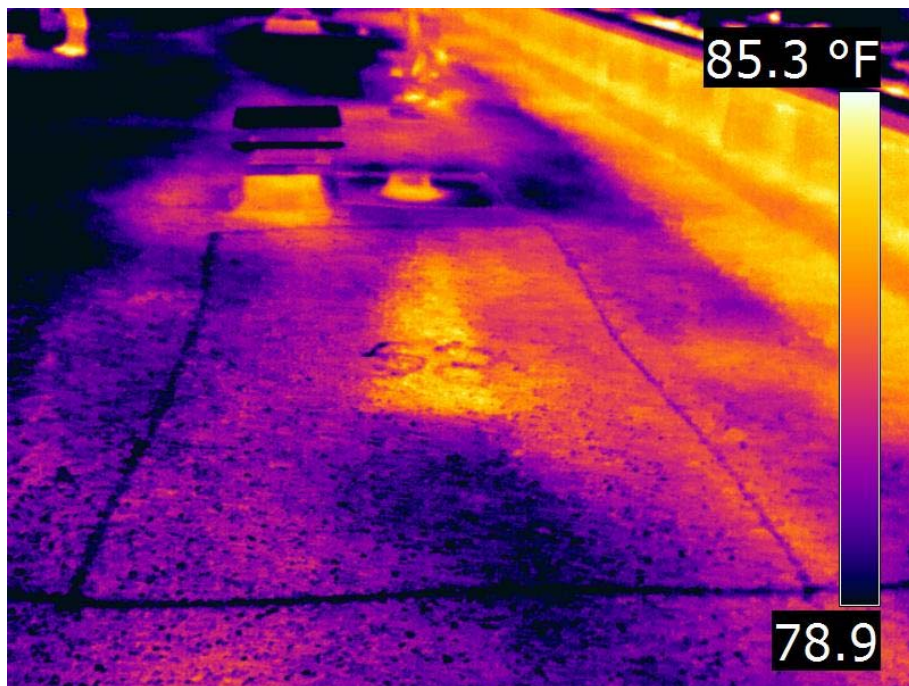
Size of Anomaly = 24 Sq. Ft.





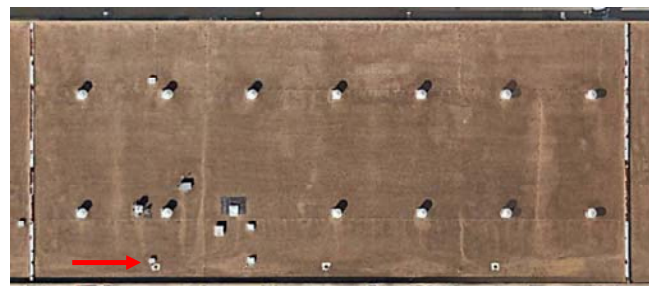
Thermal Anomaly-58 on Roof -5

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:08:16 PM
IR Image: IR_1669.jpg

Size of Anomaly = 50 Sq. Ft.





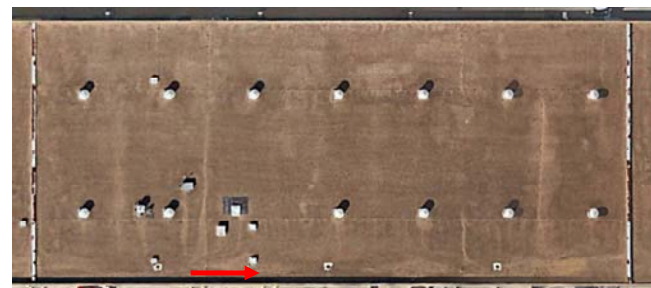
Thermal Anomaly-59 on Roof -4

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:11:41 PM
IR Image: IR_1670.jpg

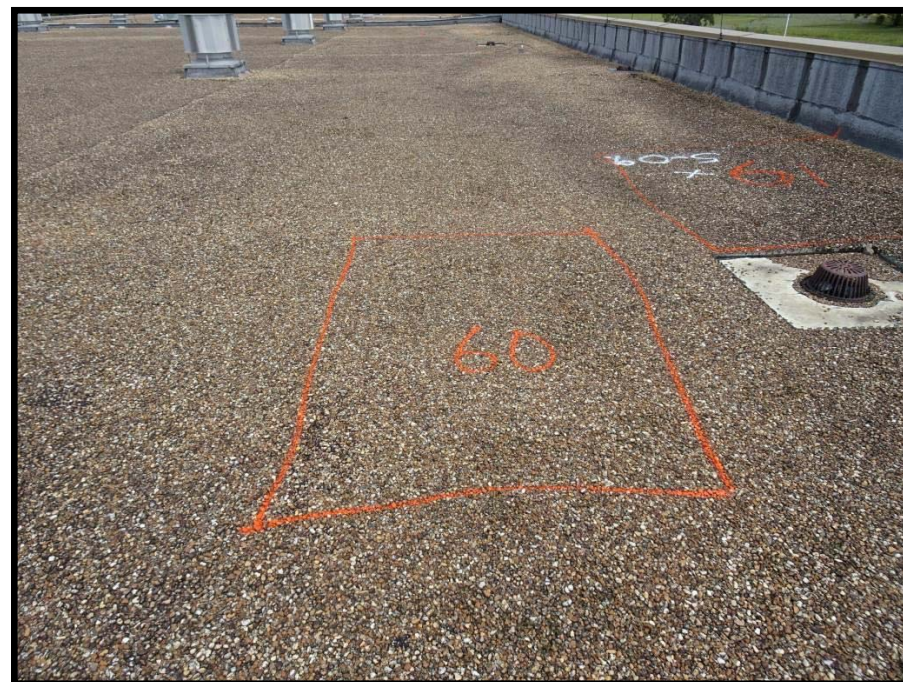
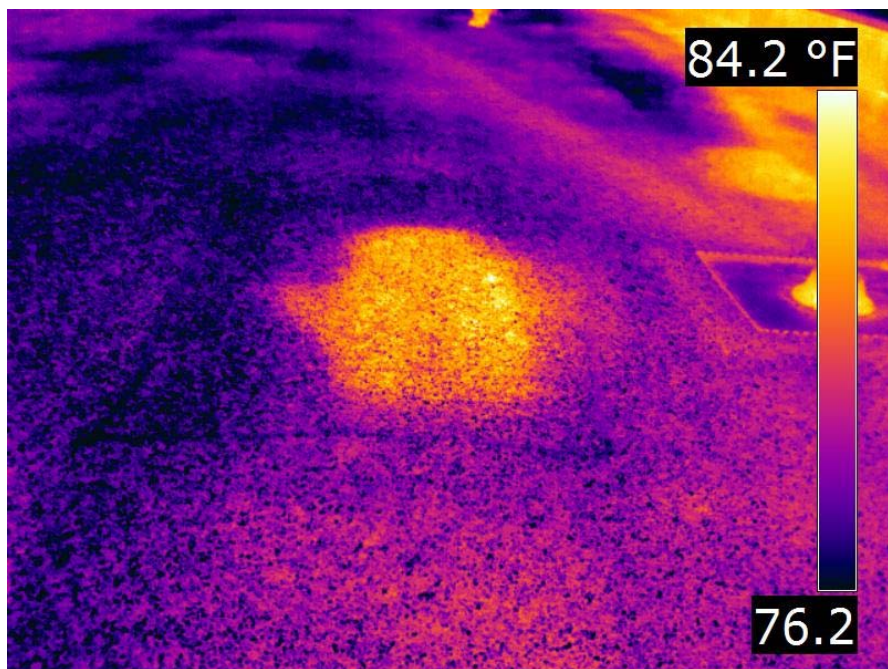
Size of Anomaly = 336 Sq. Ft.





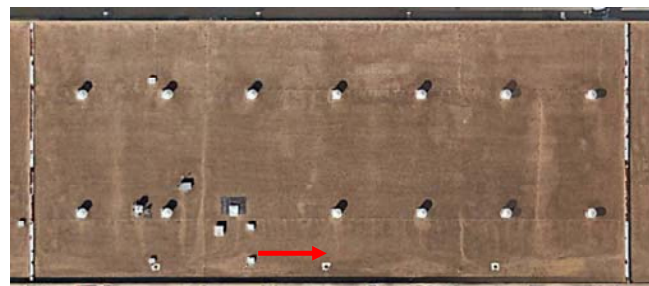
Thermal Anomaly-60 on Roof -5

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:12:56 PM
IR Image: IR_1671.jpg

Size of Anomaly = 15 Sq. Ft.





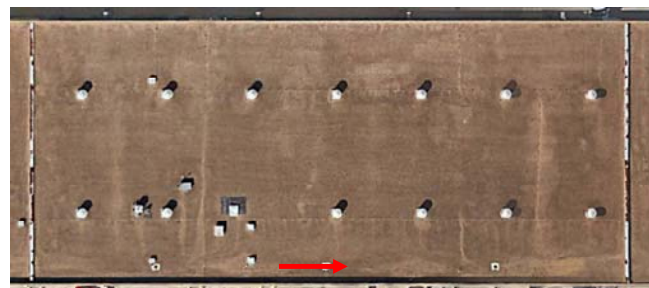
Thermal Anomaly-61 on Roof -5

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:14:04 PM
IR Image: IR_1672.jpg

Size of Anomaly = 25 Sq. Ft.





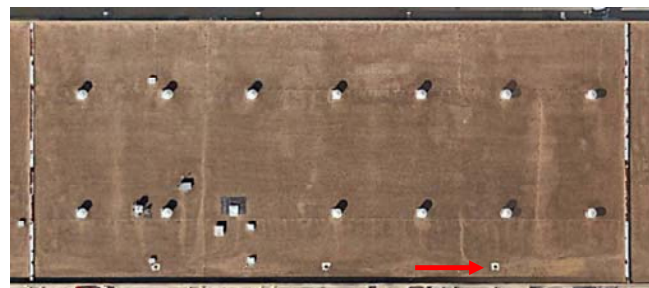
Thermal Anomaly-62 on Roof -5

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:15:34 PM
IR Image: IR_1673.jpg

Size of Anomaly = 60 Sq. Ft.





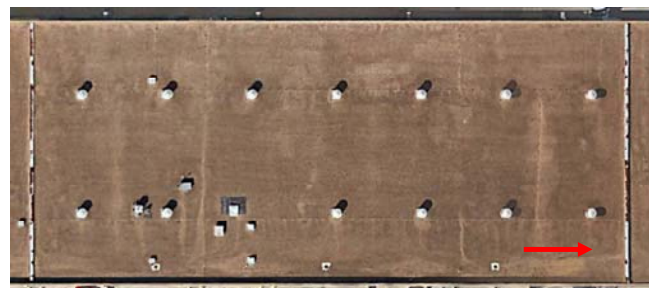
Thermal Anomaly-63 on Roof -5

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:17:24 PM
IR Image: IR_1674.jpg

Size of Anomaly = 75 Sq. Ft.





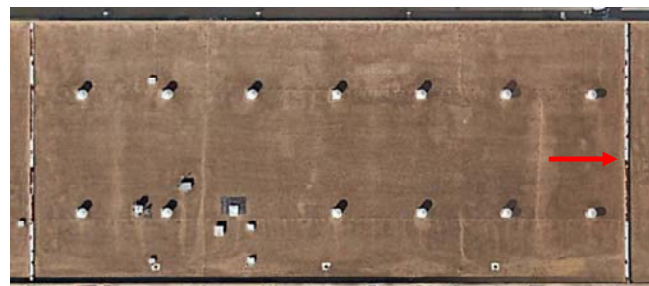
Thermal Anomaly-64 on Roof -5

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:18:31 PM
IR Image: IR_1675.jpg

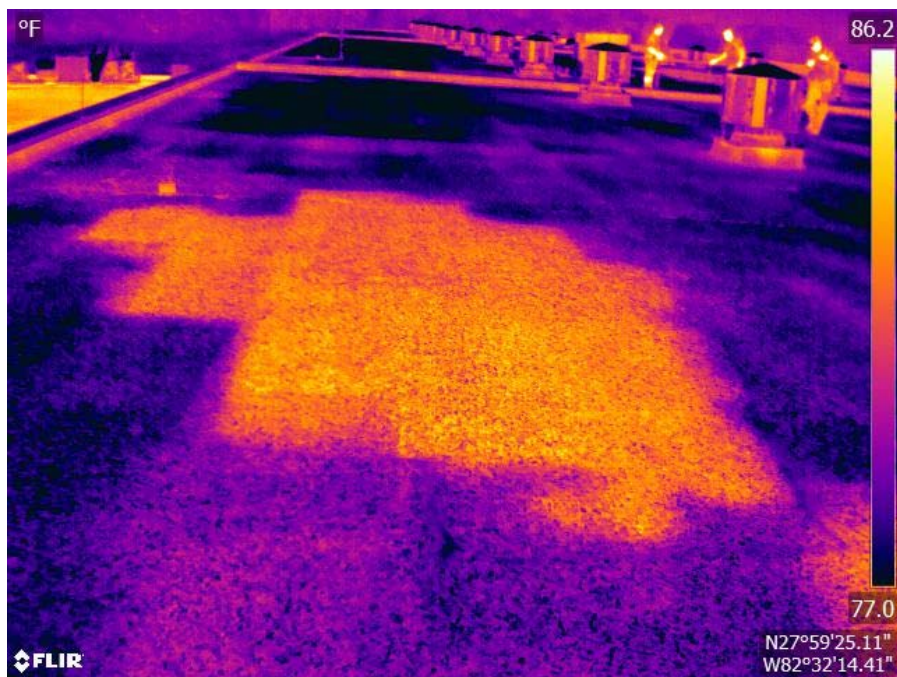
Size of Anomaly = 16 Sq. Ft.





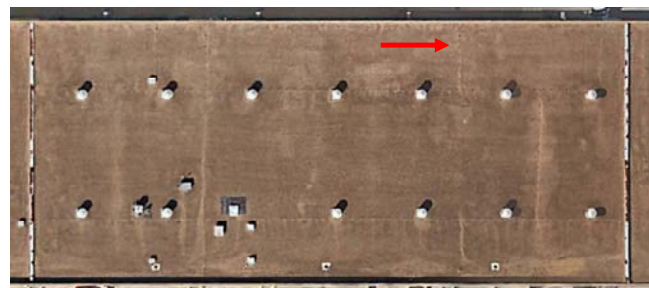
Thermal Anomaly-65 on Roof -5

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:19:32 PM
IR Image: IR_1676.jpg

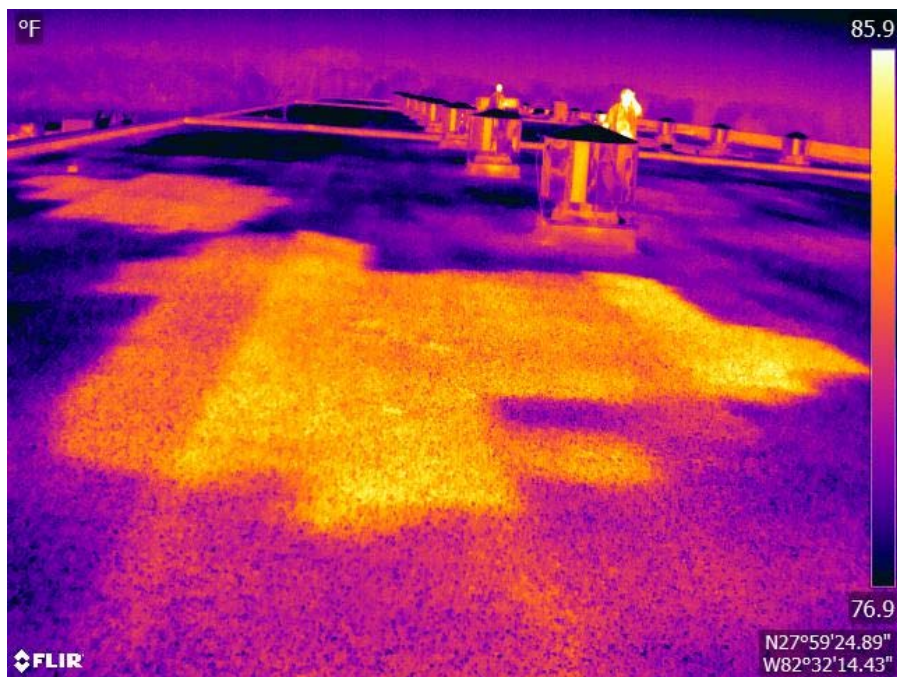
Size of Anomaly = 180 Sq. Ft.





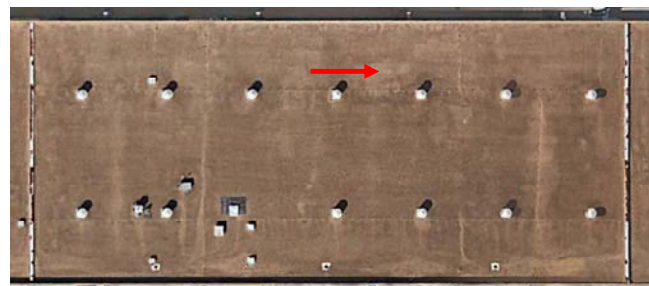
Thermal Anomaly-66 on Roof -5

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:20:17 PM
IR Image: IR_1677.jpg

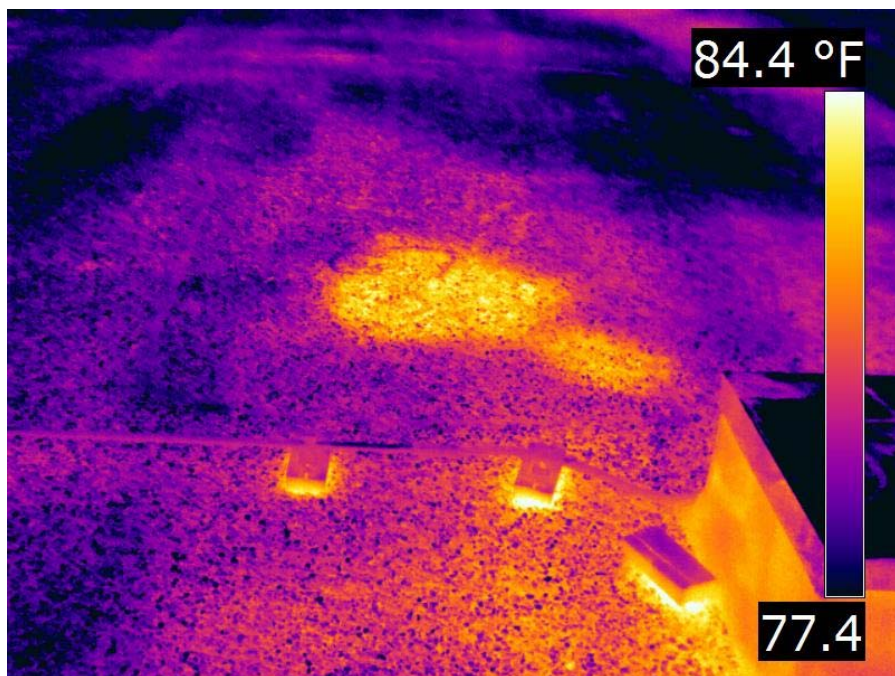
Size of Anomaly = 256 Sq. Ft.





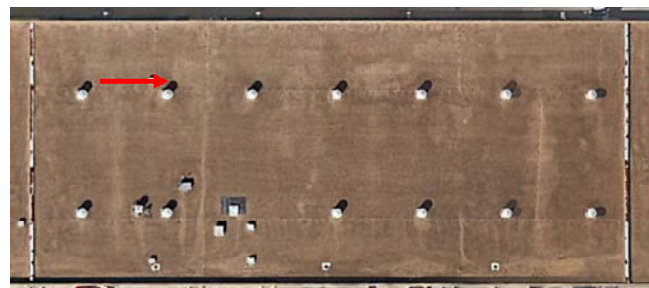
Thermal Anomaly-67-1 on Roof -5

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:21:20 PM
IR Image: IR_1678.jpg

Size of Anomaly = 15 Sq. Ft.





Appendix-VI

Roof-6

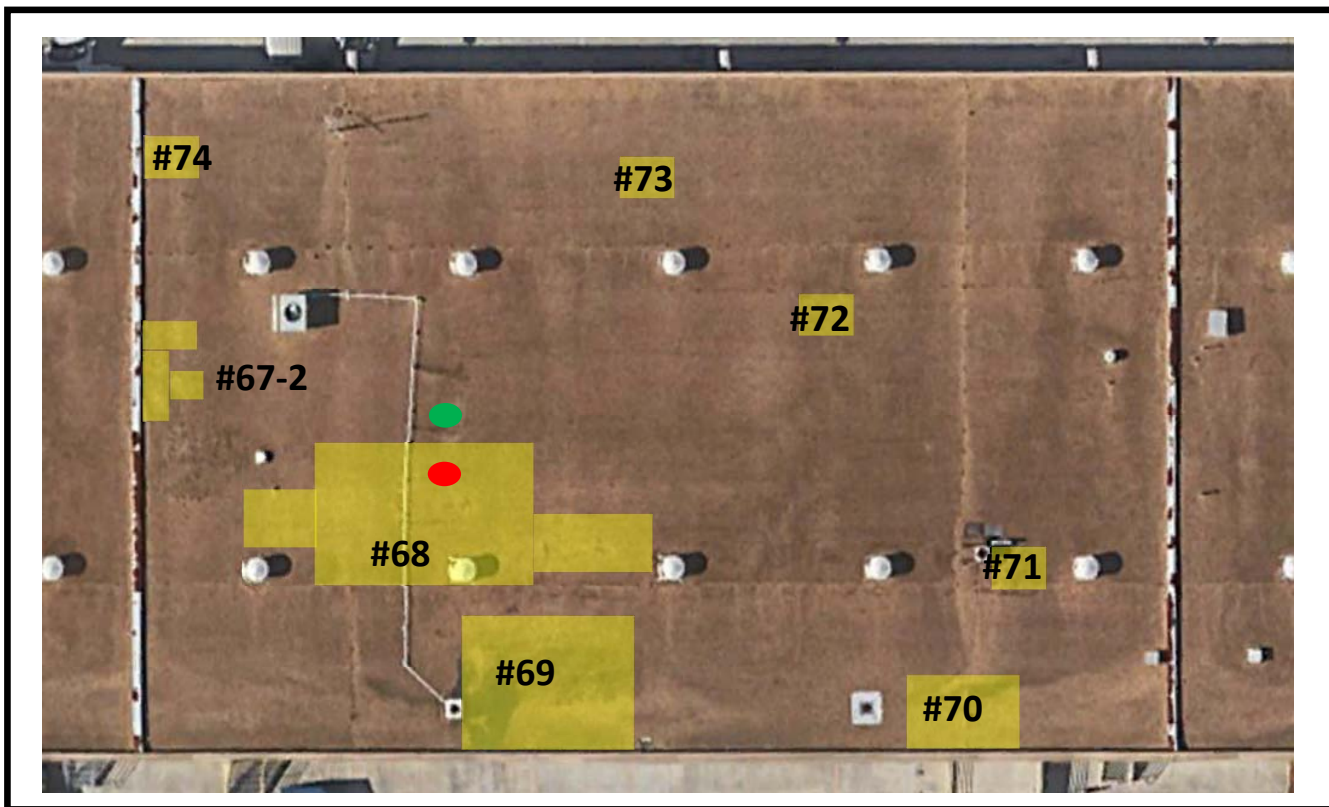
TIA North Cargo Building - 6720 North Hoover Blvd, Tampa

- Location of Thermal Anomalies / Core Cuts
 - Core Cut Results
 - Thermal / Visual Images of Anomalies



Location of Thermal Anomalies Roof -6

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Location of Thermal Anomaly That Tested (+) for Elevated Moisture
ID # Corresponds to Report Image

● Location of Core Cut – Red – Wet Insulation / Green Dry Insulation

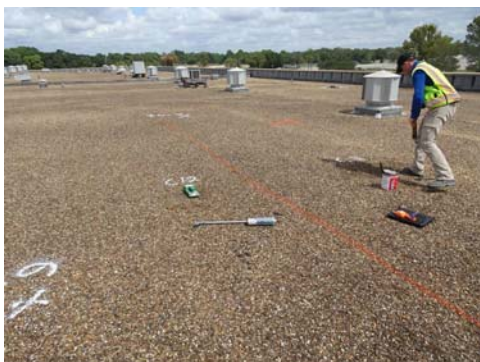
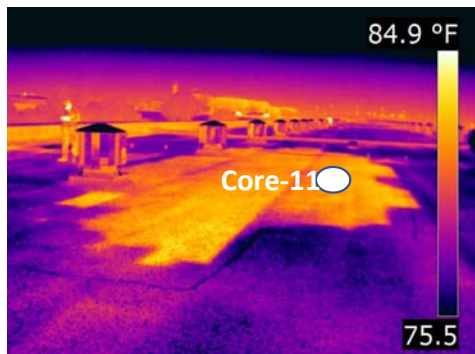
Anomaly	67	68	69	70	71	72	73	74
Size (Sq. Ft.)	50	1255	300	84	16	9	4	15
Total Area	1733							
Total Roof Size	13,350							
% of Affected Roof	12.98%							



Core Cuts 11 & 12 Roof-6 / Anomaly-68

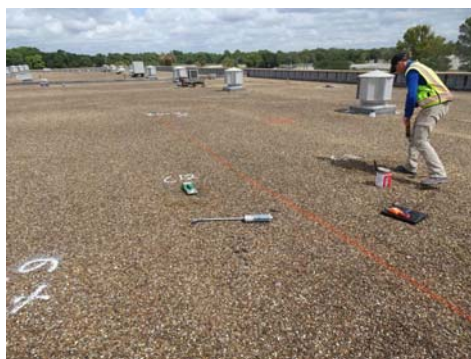
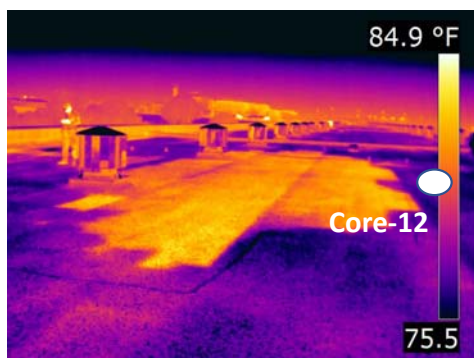
TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL

Core-11 Located at Anomaly-68 (10/5/2021)



Core located within wet area of Anomaly-66; Moisture Meter Results = **99.3%** comparative scale on upper layers of roof construction

Core-12 Located at Anomaly-68 (10/5/2021)



Core located outside of Anomaly-66; Moisture Meter Results = **12.9%** comparative scale



Thermal Anomaly-67-2 on Roof -6

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:25:11 PM
IR Image: IR_1679.jpg

Size of Anomaly = 50 Sq. Ft.





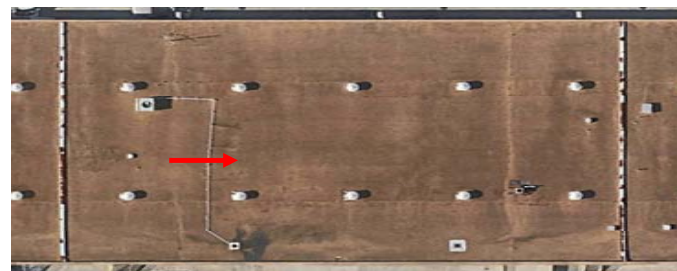
Thermal Anomaly-68 on Roof -6

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:30:18 PM
IR Image: IR_1680.jpg

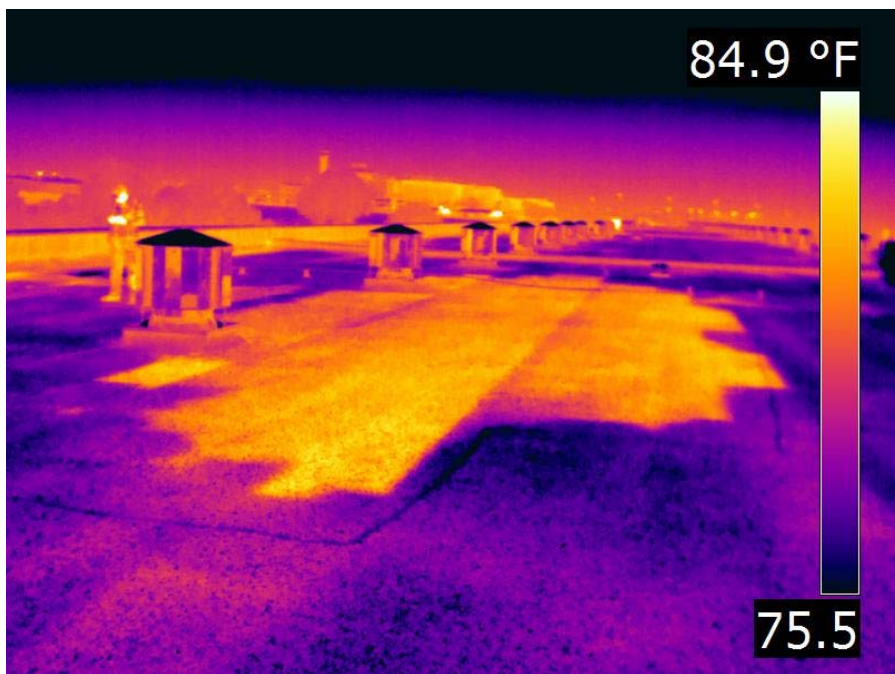
Size of Anomaly = 1255 Sq. Ft.





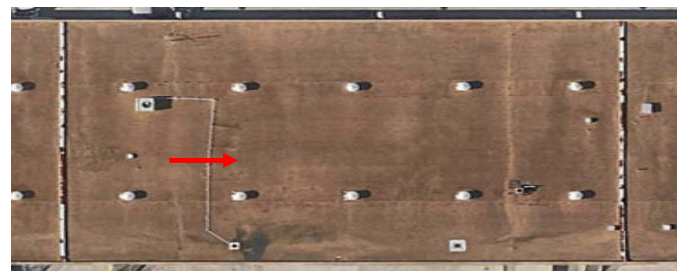
Thermal Anomaly-68 on Roof -6

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:31:09 PM
IR Image: IR_1681.jpg

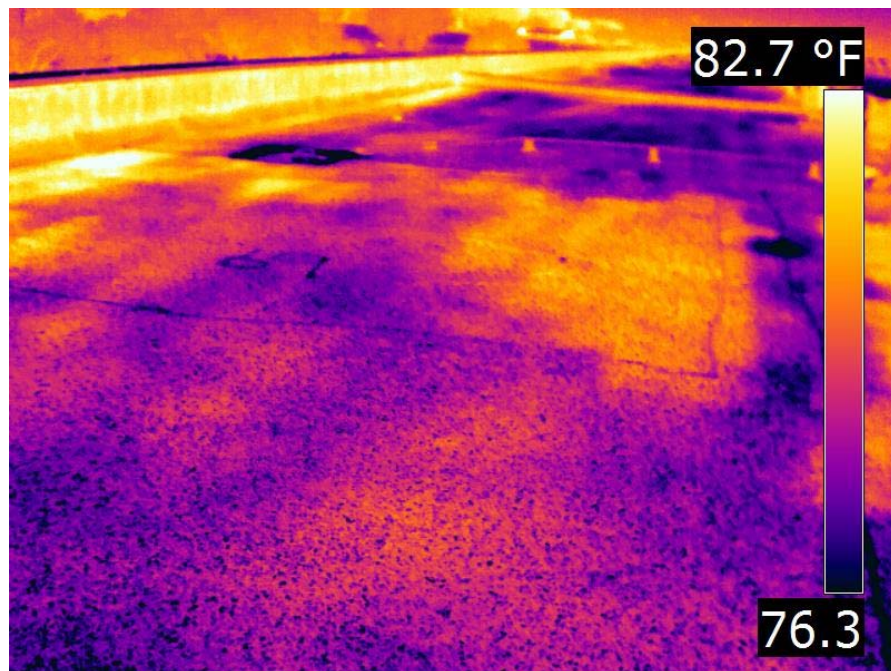
Size of Anomaly = 1255 Sq. Ft.





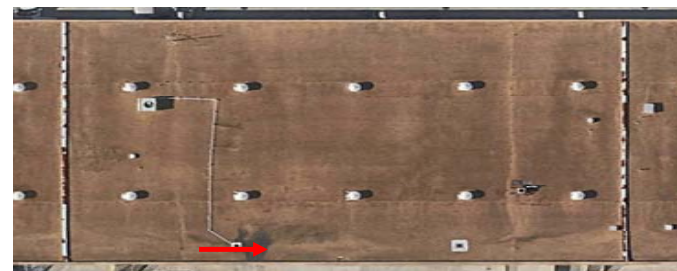
Thermal Anomaly-69 on Roof -6

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:32:36 PM
IR Image: IR_1682.jpg

Size of Anomaly = 300 Sq. Ft.





Thermal Anomaly-70 on Roof -6

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:33:46 PM
IR Image: IR_1683.jpg

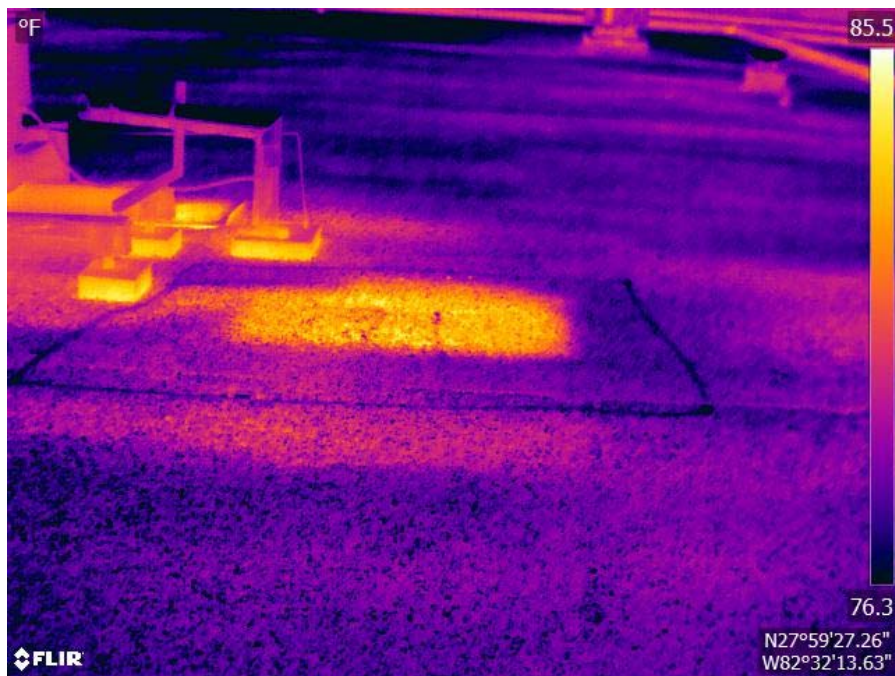
Size of Anomaly = 84 Sq. Ft.





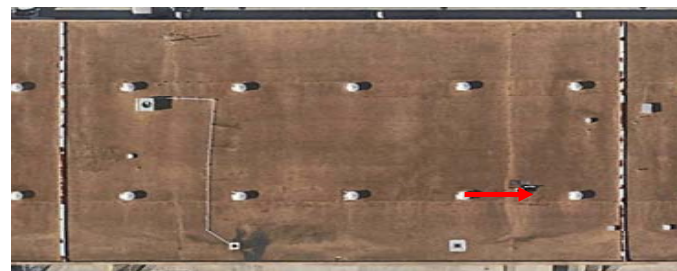
Thermal Anomaly-71 on Roof -6

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:34:25 PM
IR Image: IR_1684.jpg

Size of Anomaly = 16 Sq. Ft.





Thermal Anomaly-72 on Roof -6

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:35:27 PM
IR Image: IR_1685.jpg

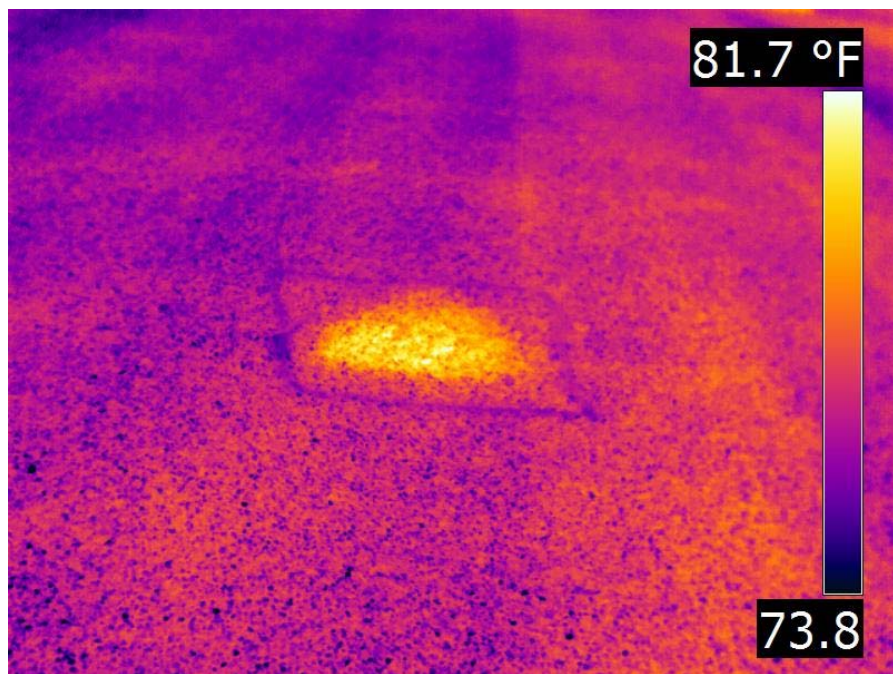
Size of Anomaly = 9 Sq. Ft.





Thermal Anomaly-73 on Roof -6

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:36:10 PM
IR Image: IR_1686.jpg

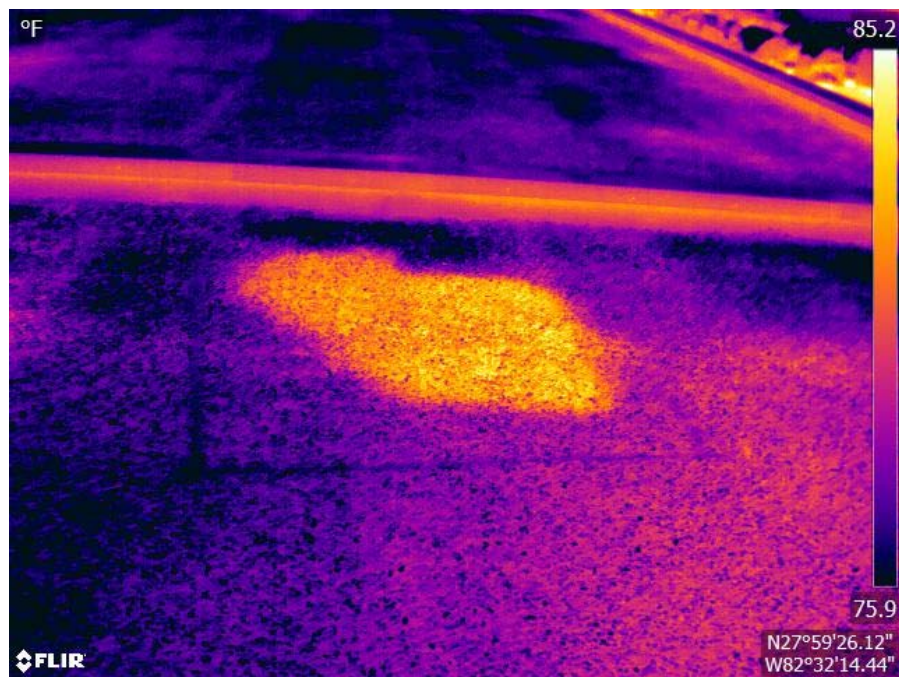
Size of Anomaly = 4 Sq. Ft.





Thermal Anomaly-74 on Roof -6

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:37:20 PM
IR Image: IR_1687.jpg

Size of Anomaly = 15 Sq. Ft.





Appendix-VII

Roof-7

TIA North Cargo Building - 6720 North Hoover Blvd, Tampa

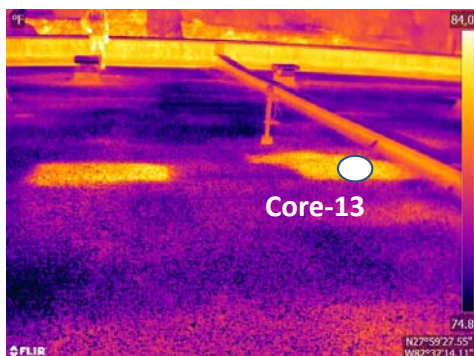
- Location of Thermal Anomalies / Core Cuts
 - Core Cut Results
 - Thermal / Visual Images of Anomalies



Core Cuts 13 & 14 Roof-7 / Anomaly-76

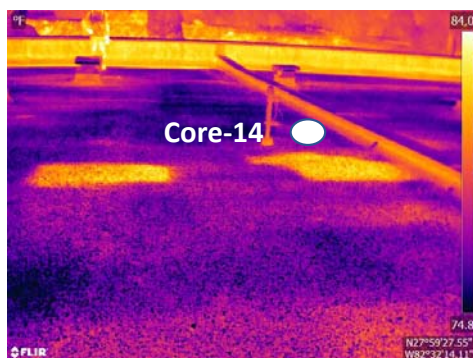
TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL

Core-13 Located at Anomaly-76 (10/5/2021)



Core located within wet area of Anomaly-76; Moisture Meter Results = **99.9%** comparative scale on upper layers of roof construction

Core-14 Located at Anomaly-76 (10/5/2021)

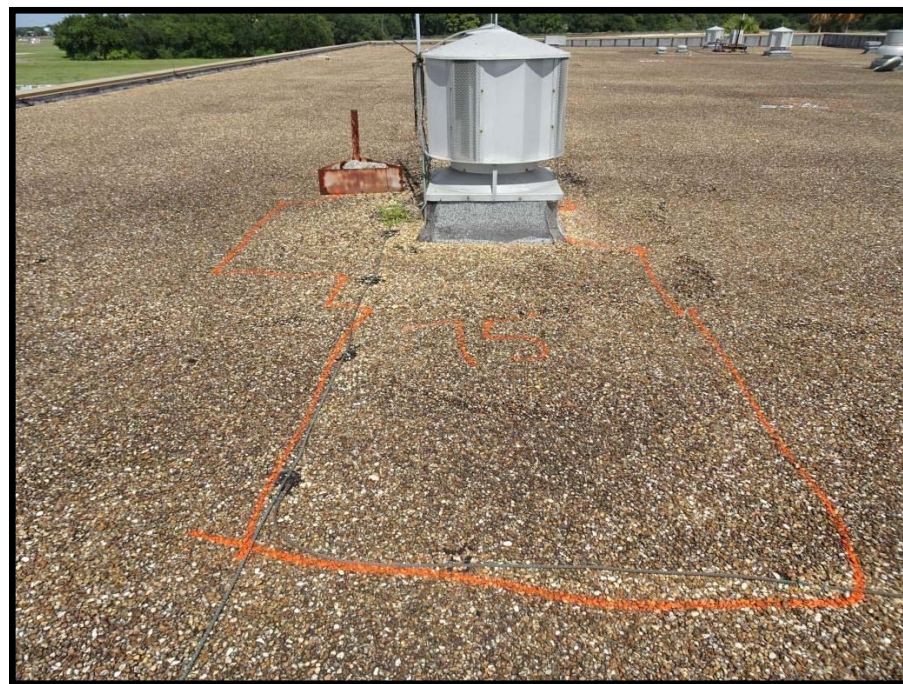


Core located outside of Anomaly-76; Moisture Meter Results = **10.3%** comparative scale



Thermal Anomaly-75 on Roof -7

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:38:44 PM
IR Image: IR_1688.jpg

Size of Anomaly = 70 Sq. Ft.





Thermal Anomaly-76 on Roof -7

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:39:28 PM
IR Image: IR_1689.jpg

Size of Anomaly = 70 Sq. Ft.





Thermal Anomaly-77 on Roof -7

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:41:20 PM
IR Image: IR_1690.jpg

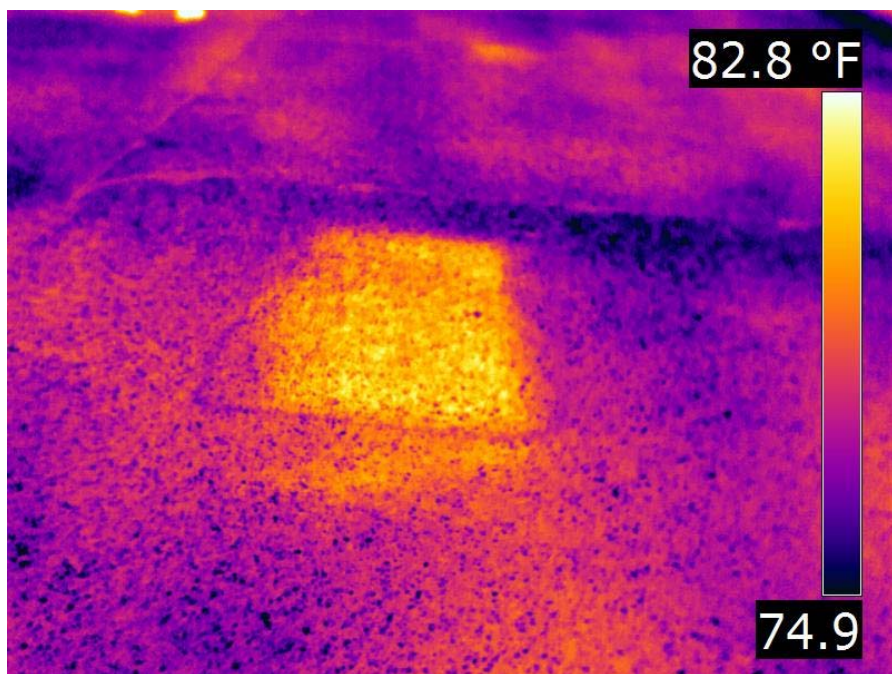
Size of Anomaly = 12 Sq. Ft.





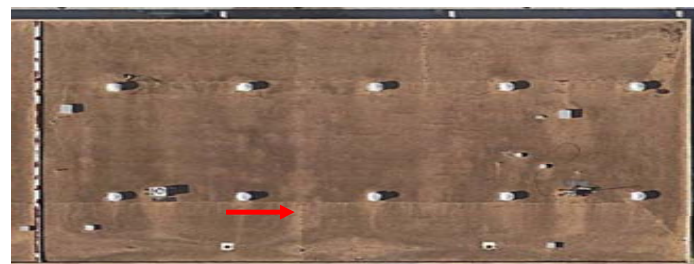
Thermal Anomaly-78 on Roof -7

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:42:25 PM
IR Image: IR_1691.jpg

Size of Anomaly = 9 Sq. Ft.





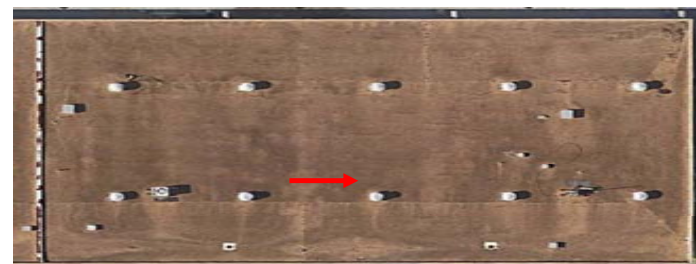
Thermal Anomaly-79 on Roof -7

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:43:28 PM
IR Image: IR_1692.jpg

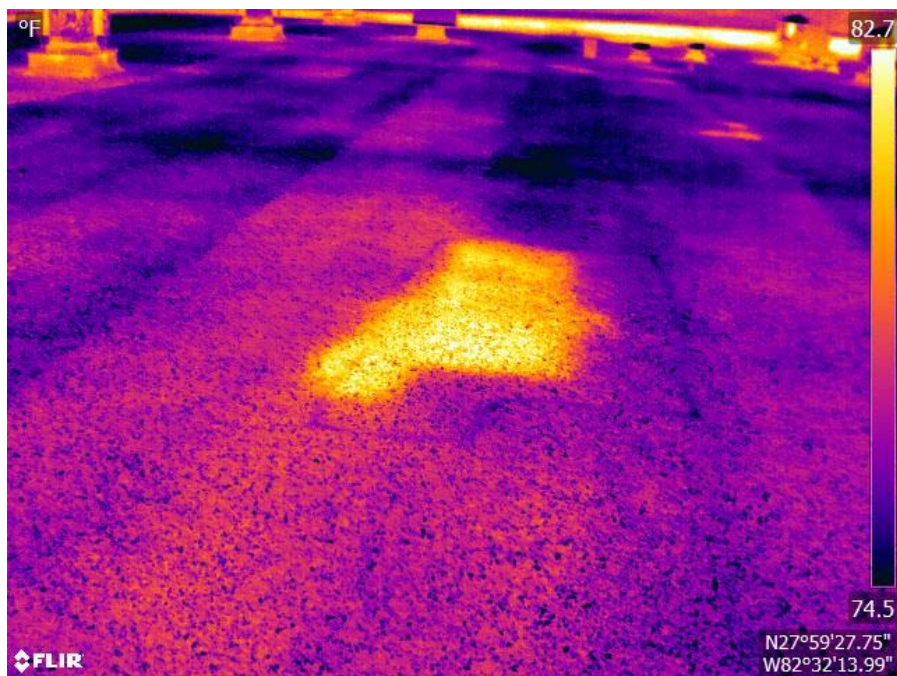
Size of Anomaly = 20 Sq. Ft.





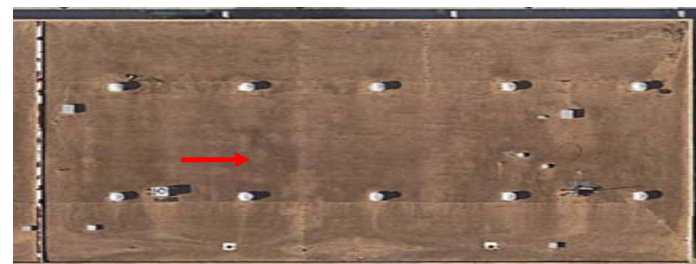
Thermal Anomaly-80 on Roof -7

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:44:09 PM
IR Image: IR_1693.jpg

Size of Anomaly = 21 Sq. Ft.





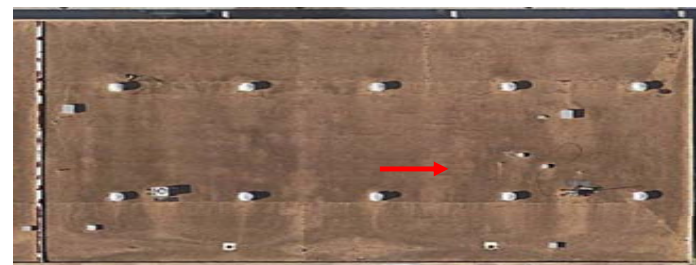
Thermal Anomaly-81 on Roof -7

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:45:24 PM
IR Image: IR_1694.jpg

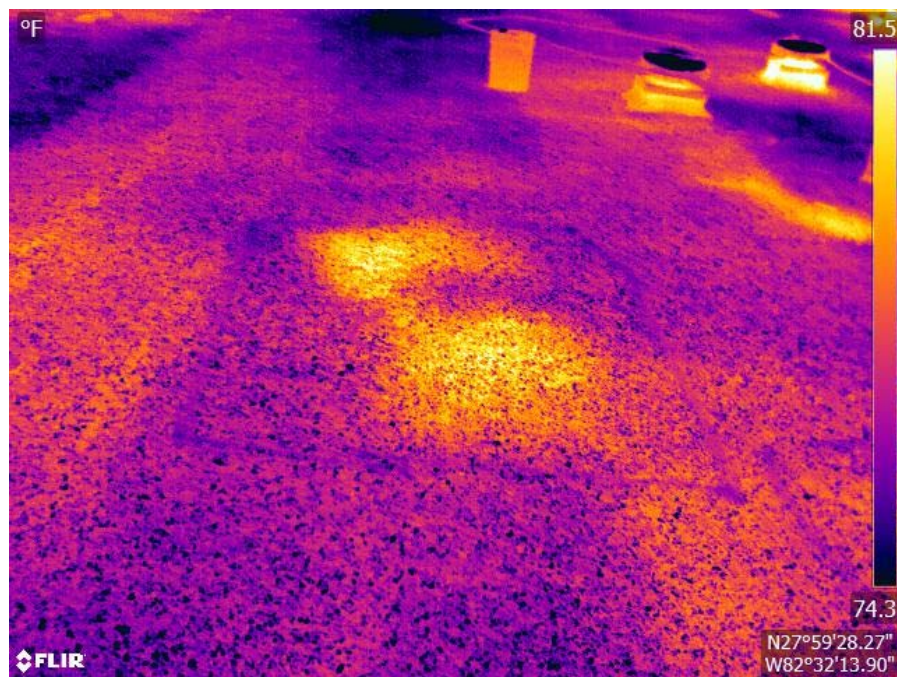
Size of Anomaly = 15 Sq. Ft.





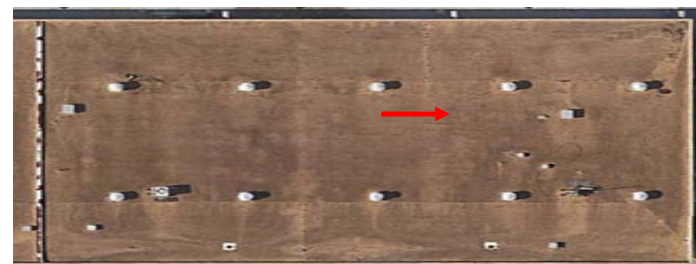
Thermal Anomaly-82 on Roof -7

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:45:54 PM
IR Image: IR_1695.jpg

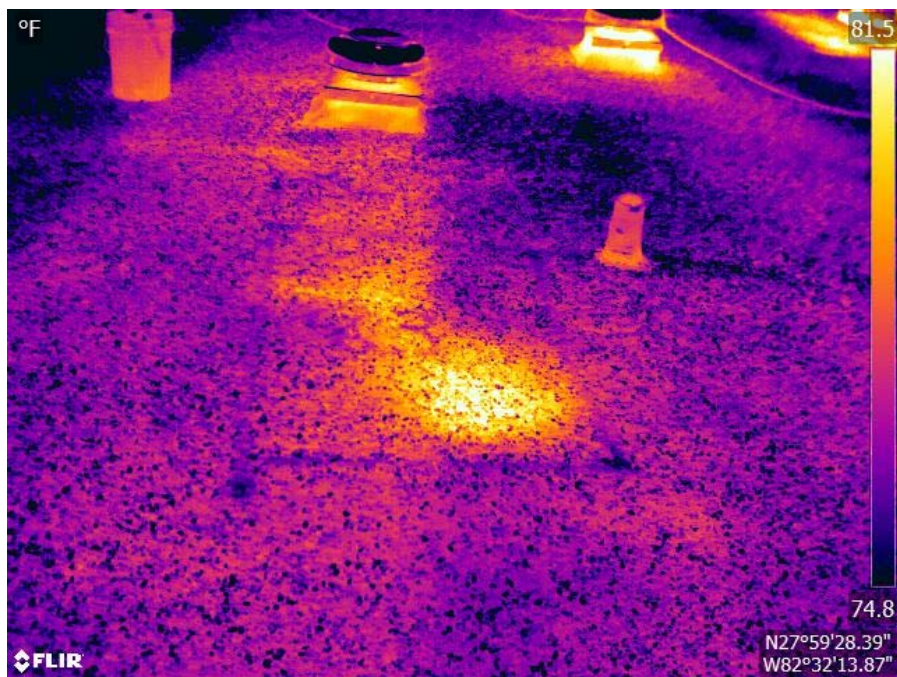
Size of Anomaly = 25 Sq. Ft.





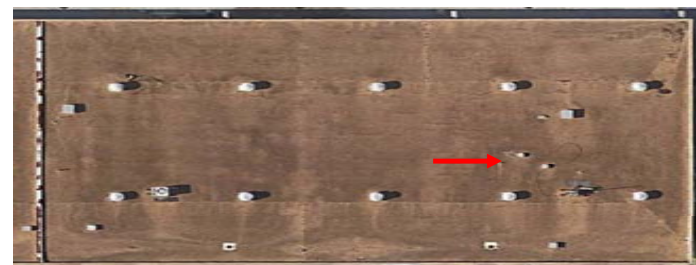
Thermal Anomaly-83 on Roof -7

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:46:30 PM
IR Image: IR_1696.jpg

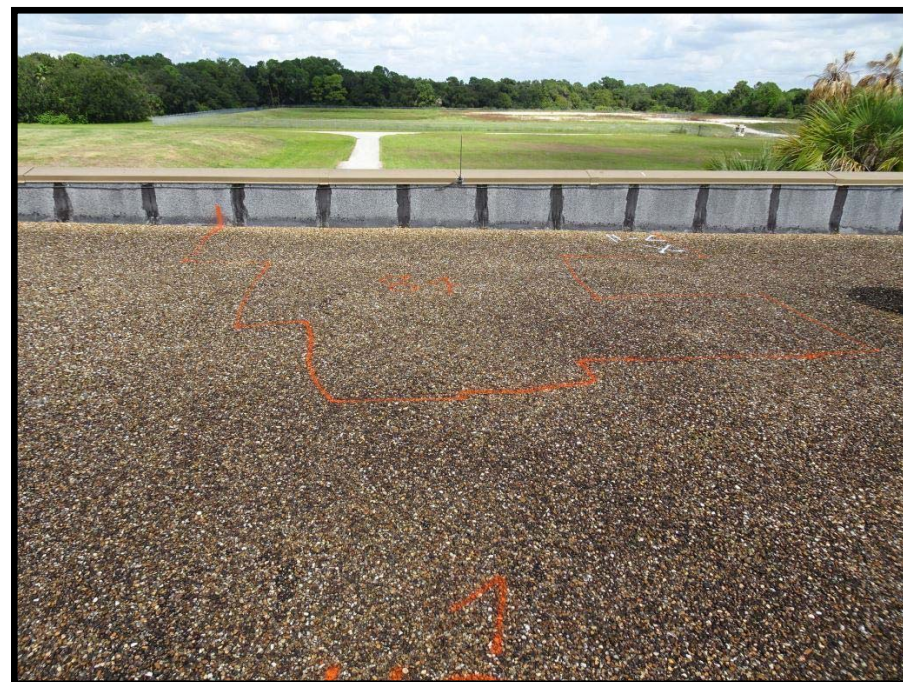
Size of Anomaly = 12 Sq. Ft.





Thermal Anomaly-84 on Roof -7

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:47:49 PM
IR Image: IR_1697.jpg

Size of Anomaly = 150 Sq. Ft.





Thermal Anomaly-85 on Roof -7

TIA North Cargo Bld. - 6720 North Hoover Blvd, Tampa, FL



Date: 10/4/2021
Time: 9:49:50 PM
IR Image: IR_1698.jpg

Size of Anomaly = 75 Sq. Ft.





CMC
Construction Moisture
Consulting, Inc.
Roofing/Waterproofing/Exterior Walls/Glazing
Complete Building Envelope Specialists

APPENDIX “B”

FASTENER FIELD WITHDRAWAL RESISTANCE TESTING (TAS 105-11) *(Test Locations Marked on Attached Roof Plans)*

**Tampa International Airport
North Air Cargo Building
4720 North Hoover Boulevard
Tampa, Florida 33614
RS&H Project No.: 204-0001-045 / CMC Project No.: 21-04038**

APPENDIX "B"

**FASTENER FIELD WITHDRAWAL RESISTANCE TESTING (TAS 105-11)
(*Test Locations Marked on Attached Roof Plans*)**

GENERAL

The existing roof areas consisted of structural steel decking supported by steel bar joists (flutes oriented south-to-north), mechanically fastened 3/4" fiberboard, multiple layers of tapered polyisocyanurate insulation board sloped approximately 1/8" per foot (from west-to-east) adhered together with hot asphalt, 3/4" fiberboard cover board and 3 plies of hot asphalt applied fiberglass built-up roofing (BUR) membrane covered with an asphalt flood coat with embedded protective gravel surfacing.

16" X 16" roof cores were removed to access the steel roof deck as required to perform the roof fastener field withdrawal testing. During removal of these roof cores, multiple layers of the concealed roof system as well as the underlying metal roof deck were evaluated and the fiberboard materials were probed with handheld Delmhorst® pin moisture meters in order to determine relative (comparative) moisture content. CMC noted the bottom layer of mechanically fastened 3/4" fiberboard which is in contact with the steel roof deck averaged approximately 55% relative moisture content and the uppermost layer of fiberboard (cover board) averaged approximately 38% relative moisture content.

The roof cores were extracted by McEnany Roofing, Inc. (MRI). In addition, MRI installed 4" full threaded #14 screws (without pre-drilling) into the steel deck as required to allow the roof fastener field withdrawal testing. Once fastener withdrawal testing was complete, MRI reinstalled the roof insulation followed by repairing the BUR membrane with 2-ply of torch-applied modified bitumen roofing membrane.

Per the TAS 105-11 protocol, CMC performed a total of 106 fastener withdrawal tests throughout all 7 roof areas. Specifically, Areas #1 through #5 were tested at 16 locations per roof section and Areas #6 and #7 at 13 locations per roof section.

1.0 ROOF AREA #1

1.1 Test Location 1-01-C

- 1.1.1 Steel roof deck in good condition with slight evidence of surface rust corrosion.
- 1.1.2 The roof system has approximately 3.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-01.



Exhibit No. E-01

- 1.1.3 Fastener withdrawal test result, **427.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-02).



Exhibit No. E-02

1.2 Test Location 1-02-P

- 1.2.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.2.2 The roof system has approximately 5.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-03.



Exhibit No. E-03

- 1.2.3 Fastener withdrawal test result, **494.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-04).



Exhibit No. E-04

1.3 Test Location 1-03-P

- 1.3.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.3.2 The roof system has approximately 7.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-05.



Exhibit No. E-05

- 1.3.3 Fastener withdrawal test result, **563.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-06).



Exhibit No. E-06

1.4 Test Location 1-04-C

- 1.4.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.4.2 The roof system has approximately 12.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-07.



Exhibit No. E-07

- 1.4.3 Fastener withdrawal test result, **520.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-08).



Exhibit No. E-08

1.5 Test Location 1-05-P

- 1.5.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.5.2 The roof system has approximately 4" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-09.



Exhibit No. E-09

- 1.5.3 Fastener withdrawal test result, **508.5 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-10).



Exhibit No. E-10

1.6 Test Location 1-06-F

- 1.6.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.6.2 The roof system has approximately 5.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-11.



Exhibit No. E-11

- 1.6.3 Fastener withdrawal test result, **482.5 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-12).



Exhibit No. E-12

1.7 Test Location 1-07-F

- 1.7.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.7.2 The roof system has approximately 11.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-13.



Exhibit No. E-13

- 1.7.3 Fastener withdrawal test result, **543.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-14).



Exhibit No. E-14

1.8 Test Location 1-08-P

- 1.8.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.8.2 The roof system has approximately 12.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-15.



Exhibit No. E-15

- 1.8.3 Fastener withdrawal test result, **436.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-16).



Exhibit No. E-16

1.9 Test Location 1-09-P

- 1.9.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.9.2 The roof system has approximately 3" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-17.



Exhibit No. E-17

- 1.9.3 Fastener withdrawal test result, **512.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-18).



Exhibit No. E-18

1.10 Test Location 1-10-F

- 1.10.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.10.2 The roof system has approximately 4.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-19.



Exhibit No. E-19

- 1.10.3 Fastener withdrawal test result, **510.5 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-20).



Exhibit No. E-20

1.11 Test Location 1-11-F

- 1.11.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.11.2 The roof system has approximately 7.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-21.



Exhibit No. E-21

- 1.11.3 Fastener withdrawal test result, **436.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-22).



Exhibit No. E-22

1.12 Test Location 1-12-P

- 1.12.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.12.2 The roof system has approximately 12.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-23.



Exhibit No. E-23

- 1.12.3 Fastener withdrawal test result, **599.8 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-24).



Exhibit No. E-24

1.13 Test Location 1-13-C

- 1.13.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.13.2 The roof system has approximately 5.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-25.



Exhibit No. E-25

- 1.13.3 Fastener withdrawal test result, **451.8 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-26).



Exhibit No. E-26

1.14 Test Location 1-14-P

- 1.14.1 Steel roof deck in good condition with slight evidence of surface rust corrosion.
- 1.14.2 The roof system has approximately 6" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-27.



Exhibit No. E-27

- 1.14.3 Fastener withdrawal test result, **497.5 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-28).



Exhibit No. E-28

1.15 Test Location 1-15-P

- 1.15.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.15.2 The roof system has approximately 10" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-29.



Exhibit No. E-29

- 1.15.3 Fastener withdrawal test result, **562.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-30).



Exhibit No. E-30

1.16 Test Location 1-16-C

- 1.16.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 1.16.2 The roof system has approximately 13" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-31.



Exhibit No. E-31

- 1.16.3 Fastener withdrawal test result, **575.3 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-32).



Exhibit No. E-32

2.0 ROOF AREA #2

2.1 Test Location 2-01-C

- 2.1.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.1.2 The roof system has approximately 5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-33.



Exhibit No. E-33

- 2.1.3 Fastener withdrawal test result, **581.5 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-34).



Exhibit No. E-34

2.2 Test Location 2-02-P

- 2.2.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.2.2 The roof system has approximately 5.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-35.



Exhibit No. E-35

- 2.2.3 Fastener withdrawal test result, **497.9 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-36).



Exhibit No. E-36

2.3 Test Location 2-03-P

- 2.3.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.3.2 The roof system has approximately 8.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-37.



Exhibit No. E-37

- 2.3.3 Fastener withdrawal test result, **559.5 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-38).



Exhibit No. E-38

2.4 Test Location 2-04-C

- 2.4.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.4.2 The roof system has approximately 12.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-39.



Exhibit No. E-39

- 2.4.3 Fastener withdrawal test result, **478.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-40).



Exhibit No. E-40

2.5 Test Location 2-05-P

- 2.5.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.5.2 The roof system has approximately 4.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-41.



Exhibit No. E-41

- 2.5.3 Fastener withdrawal test result, **547.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-42).



Exhibit No. E-42

2.6 Test Location 2-06-F

- 2.6.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.6.2 The roof system has approximately 4.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-43.



Exhibit No. E-43

- 2.6.3 Fastener withdrawal test result, **488.75 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-44).



Exhibit No. E-44

2.7 Test Location 2-07-F

- 2.7.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.7.2 The roof system has approximately 7.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-45.



Exhibit No. E-45

- 2.7.3 Fastener withdrawal test result, **500.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-46).



Exhibit No. E-46

2.8 Test Location 2-08-P

- 2.8.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.8.2 The roof system has approximately 12.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-47.



Exhibit No. E-47

- 2.8.3 Fastener withdrawal test result, **597.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-48).



Exhibit No. E-48

2.9 Test Location 2-09-P

- 2.9.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.9.2 The roof system has approximately 2.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-49.



Exhibit No. E-49

- 2.9.3 Fastener withdrawal test result, **475.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-50).



Exhibit No. E-50

2.10 Test Location 2-10-F

- 2.10.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.10.2 The roof system has approximately 5.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-51.



Exhibit No. E-51

- 2.10.3 Fastener withdrawal test result, **492.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-52).



Exhibit No. E-52

2.11 Test Location 2-11-F

- 2.11.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.11.2 The roof system has approximately 10" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-53.



Exhibit No. E-53

- 2.11.3 Fastener withdrawal test result, **572.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-54).



Exhibit No. E-54

2.12 Test Location 2-12-P

- 2.12.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.12.2 The roof system has approximately 13" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-55.



Exhibit No. E-55

- 2.12.3 Fastener withdrawal test result, **547.7 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-56).



Exhibit No. E-56

2.13 Test Location 2-13-C

- 2.13.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.13.2 The roof system has approximately 5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-57.



Exhibit No. E-57

- 2.13.3 Fastener withdrawal test result, **571.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-58).



Exhibit No. E-58

2.14 Test Location 2-14-P

- 2.14.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.14.2 The roof system has approximately 5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-59.



Exhibit No. E-59

- 2.14.3 Fastener withdrawal test result, **504.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-60).



Exhibit No. E-60

2.15 Test Location 2-15-P

- 2.15.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.15.2 The roof system has approximately 8.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-61.



Exhibit No. E-61

- 2.15.3 Fastener withdrawal test result, **498.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-62).



Exhibit No. E-62

2.16 Test Location 2-16-C

- 2.16.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 2.16.2 The roof system has approximately 13.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-63.



Exhibit No. E-63

- 2.16.3 Fastener withdrawal test result, **519.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-64).



Exhibit No. E-64

3.0 ROOF AREA #3

3.1 Test Location 3-01-C

- 3.1.1 Steel roof deck in good condition with severe evidence of rust corrosion.
- 3.1.2 The roof system has approximately 3.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-65.



Exhibit No. E-65

- 3.1.3 Fastener withdrawal test result, **179.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-66).



Exhibit No. E-66

3.2 Test Location 3-02-P

- 3.2.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 3.2.2 The roof system has approximately 4.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-67.



Exhibit No. E-67

- 3.2.3 Fastener withdrawal test result, **511.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-68).



Exhibit No. E-68

3.3 Test Location 3-03-P

- 3.3.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 3.3.2 The roof system has approximately 8.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-69.



Exhibit No. E-69

- 3.3.3 Fastener withdrawal test result, **702.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-70).



Exhibit No. E-70

3.4 Test Location 3-04-C

- 3.4.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 3.4.2 The roof system has approximately 13.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-71.



Exhibit No. E-71

- 3.4.3 Fastener withdrawal test result, **530.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-72).



Exhibit No. E-72

3.5 Test Location 3-05-P

- 3.5.1 Steel roof deck in good condition with moderate evidence of rust corrosion.
- 3.5.2 The roof system has approximately 1.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-73.



Exhibit No. E-73

- 3.5.3 Fastener withdrawal test result, **365.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-74).



Exhibit No. E-74

3.6 Test Location 3-06-F

- 3.6.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 3.6.2 The roof system has approximately 5.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-75.



Exhibit No. E-75

- 3.6.3 Fastener withdrawal test result, **452.9 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-76).



Exhibit No. E-76

3.7 Test Location 3-07-F

- 3.7.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 3.7.2 The roof system has approximately 7.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-77.



Exhibit No. E-77

- 3.7.3 Fastener withdrawal test result, **434.9 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-78).



Exhibit No. E-78

3.8 Test Location 3-08-P

- 3.8.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 3.8.2 The roof system has approximately 13" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-79.



Exhibit No. E-79

- 3.8.3 Fastener withdrawal test result, **567.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-80).



Exhibit No. E-80

3.9 Test Location 3-09-P

- 3.9.1 Steel roof deck in good condition with **severe** evidence of rust corrosion.
- 3.9.2 The roof system has approximately 2" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-81.



Exhibit No. E-81

- 3.9.3 Fastener withdrawal test result, **103.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-82).



Exhibit No. E-82

3.10 Test Location 3-10-F

- 3.10.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 3.10.2 The roof system has approximately 5.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-83.



Exhibit No. E-83

- 3.10.3 Fastener withdrawal test result, **523.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-84).



Exhibit No. E-84

3.11 Test Location 3-11-F

3.11.1 Steel roof deck in good condition with no evidence of rust corrosion.

3.11.2 The roof system has approximately 9.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-85.



Exhibit No. E-85

3.11.3 Fastener withdrawal test result, **586.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-86).



Exhibit No. E-86

3.12 Test Location 3-12-P

3.12.1 Steel roof deck in good condition with no evidence of rust corrosion.

3.12.2 The roof system has approximately 12.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-87.



Exhibit No. E-87

3.12.3 Fastener withdrawal test result, **476.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-88).



Exhibit No. E-88

3.13 Test Location 3-13-C

- 3.13.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 3.13.2 The roof system has approximately 5.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-89.



Exhibit No. E-89

- 3.13.3 Fastener withdrawal test result, **511.3 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-90).



Exhibit No. E-90

3.14 Test Location 3-14-P

- 3.14.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 3.14.2 The roof system has approximately 5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-91.



Exhibit No. E-91

- 3.14.3 Fastener withdrawal test result, **554.9 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-92).



Exhibit No. E-92

3.15 Test Location 3-15-P

- 3.15.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 3.15.2 The roof system has approximately 7.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-93.



Exhibit No. E-93

- 3.15.3 Fastener withdrawal test result, **505.9 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-94).



Exhibit No. E-94

3.16 Test Location 3-16-C

3.16.1 Steel roof deck in good condition with no evidence of rust corrosion.

3.16.2 The roof system has approximately 13" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-95.



Exhibit No. E-95

3.16.3 Fastener withdrawal test result, **479.3 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-96).



Exhibit No. E-96

4.0 ROOF AREA #4

4.1 Test Location 4-01-C

4.1.1 Steel roof deck in good condition with no evidence of rust corrosion.

4.1.2 The roof system has approximately 5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-97.



Exhibit No. E-97

4.1.3 Fastener withdrawal test result, **506 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-98).



Exhibit No. E-98

4.2 Test Location 4-02-P

- 4.2.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 4.2.2 The roof system has approximately 5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-99.



Exhibit No. E-99

- 4.2.3 Fastener withdrawal test result, **487.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-100).



Exhibit No. E-100

4.3 Test Location 4-03-P

- 4.3.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 4.3.2 The roof system has approximately 7" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-101.



Exhibit No. E-101

- 4.3.3 Fastener withdrawal test result, **495.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-102).



Exhibit No. E-102

4.4 Test Location 4-04-C

- 4.4.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 4.4.2 The roof system has approximately 12.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-103.



Exhibit No. E-103

- 4.4.3 Fastener withdrawal test result, **562.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-104).



Exhibit No. E-104

4.5 Test Location 4-05-P

4.5.1 Steel roof deck in good condition with no evidence of rust corrosion.

4.5.2 The roof system has approximately 2.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-105.



Exhibit No. E-105

4.5.3 Fastener withdrawal test result, **516.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-106).



Exhibit No. E-106

4.6 Test Location 4-06-F

4.6.1 Steel roof deck in good condition with no evidence of rust corrosion.

4.6.2 The roof system has approximately 5.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-107.



Exhibit No. E-107

4.6.3 Fastener withdrawal test result, **550.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-108).



Exhibit No. E-108

4.7 Test Location 4-07-F

- 4.7.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 4.7.2 The roof system has approximately 8.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-109.



Exhibit No. E-109

- 4.7.3 Fastener withdrawal test result, **534.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-110).



Exhibit No. E-110

4.8 Test Location 4-08-P

- 4.8.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 4.8.2 The roof system has approximately 12.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-111.



Exhibit No. E-111

- 4.8.3 Fastener withdrawal test result, **635.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-112).



Exhibit No. E-112

4.9 Test Location 4-09-P

- 4.9.1 Steel roof deck in good condition with **moderate** evidence of rust corrosion.
- 4.9.2 The roof system has approximately 3.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-113.



Exhibit No. E-113

- 4.9.3 Fastener withdrawal test result, **478.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-114).



Exhibit No. E-114

4.10 Test Location 4-10-F

- 4.10.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 4.10.2 The roof system has approximately 4.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-115.



Exhibit No. E-115

- 4.10.3 Fastener withdrawal test result, **502.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-116).



Exhibit No. E-116

4.11 Test Location 4-11-F

- 4.11.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 4.11.2 The roof system has approximately 9.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-117.



Exhibit No. E-117

- 4.11.3 Fastener withdrawal test result, **426.3 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-118).



Exhibit No. E-118

4.12 Test Location 4-12-P

- 4.12.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 4.12.2 The roof system has approximately 12.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-119.



Exhibit No. E-119

- 4.12.3 Fastener withdrawal test result, **437.3 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-120).



Exhibit No. E-120

4.13 Test Location 4-13-C

- 4.13.1 Steel roof deck in good condition with **moderate** evidence of rust corrosion.
- 4.13.2 The roof system has approximately 3.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-121.



Exhibit No. E-121

- 4.13.3 Fastener withdrawal test result, **541.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-122).



Exhibit No. E-122

4.14 Test Location 4-14-P

- 4.14.1 Steel roof deck in good condition with **moderate** evidence of rust corrosion.
- 4.14.2 The roof system has approximately 4.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-123.



Exhibit No. E-123

- 4.14.3 Fastener withdrawal test result, **529.8 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-124).



Exhibit No. E-124

4.15 Test Location 4-15-P

- 4.15.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 4.15.2 The roof system has approximately 9.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-125.



Exhibit No. E-125

- 4.15.3 Fastener withdrawal test result, **345.9 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-126).



Exhibit No. E-126

4.16 Test Location 4-16-C

- 4.16.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 4.16.2 The roof system has approximately 13" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-127.



Exhibit No. E-127

- 4.16.3 Fastener withdrawal test result, **656.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-128).



Exhibit No. E-128

5.0 ROOF AREA # 5

5.1 Test Location 5-01-C

- 5.1.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.1.2 The roof system has approximately 4.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-129.



Exhibit No. E-129

- 5.1.3 Fastener withdrawal test result, **501.5 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-130).



Exhibit No. E-130

5.2 Test Location 5-02-P

- 5.2.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.2.2 The roof system has approximately 4.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-131.



Exhibit No. E-131

- 5.2.3 Fastener withdrawal test result, **480.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-132).



Exhibit No. E-132

5.3 Test Location 5-03-P

- 5.3.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.3.2 The roof system has approximately 8" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-133.



Exhibit No. E-133

- 5.3.3 Fastener withdrawal test result, **513.3 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-134).



Exhibit No. E-134

5.4 Test Location 5-04-C

- 5.4.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.4.2 The roof system has approximately 13.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-135.



Exhibit No. E-135

- 5.4.3 Fastener withdrawal test result, **492.7 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-136).



Exhibit No. E-136

5.5 Test Location 5-05-P

- 5.5.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.5.2 The roof system has approximately 3.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-137.



Exhibit No. E-137

- 5.5.3 Fastener withdrawal test result, **505.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-138).



Exhibit No. E-138

5.6 Test Location 5-06-F

- 5.6.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.6.2 The roof system has approximately 5.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-139.



Exhibit No. E-139

- 5.6.3 Fastener withdrawal test result, **510.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-140).



Exhibit No. E-140

5.7 Test Location 5-07-F

- 5.7.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.7.2 The roof system has approximately 8.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-141.



Exhibit No. E-141

- 5.7.3 Fastener withdrawal test result, **697.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-142).



Exhibit No. E-142

5.8 Test Location 5-08-P

- 5.8.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.8.2 The roof system has approximately 13.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-143.



Exhibit No. E-143

- 5.8.3 Fastener withdrawal test result, **585.9 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-144).



Exhibit No. E-144

5.9 Test Location 5-09-P

- 5.9.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.9.2 The roof system has approximately 2" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-145.



Exhibit No. E-145

- 5.9.3 Fastener withdrawal test result, **491.7 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-146).



Exhibit No. E-146

5.10 Test Location 5-10-F

- 5.10.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.10.2 The roof system has approximately 5.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-147.



Exhibit No. E-147

- 5.10.3 Fastener withdrawal test result, **610.5 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-148).



Exhibit No. E-148

5.11 Test Location 5-11-F

- 5.11.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.11.2 The roof system has approximately 10.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-149.



Exhibit No. E-149

- 5.11.3 Fastener withdrawal test result, **547.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-150).



Exhibit No. E-150

5.12 Test Location 5-12-P

- 5.12.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.12.2 The roof system has approximately 12.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-151.



Exhibit No. E-151

- 5.12.3 Fastener withdrawal test result, **668.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-152).



Exhibit No. E-152

5.13 Test Location 5-13-C

- 5.13.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.13.2 The roof system has approximately 5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-153.



Exhibit No. E-153

- 5.13.3 Fastener withdrawal test result, **474.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-154).



Exhibit No. E-154

5.14 Test Location 5-14-P

- 5.14.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.14.2 The roof system has approximately 4.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-155.



Exhibit No. E-155

- 5.14.3 Fastener withdrawal test result, **456.9 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-156).



Exhibit No. E-156

5.15 Test Location 5-15-P

- 5.15.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.15.2 The roof system has approximately 6.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-157.



Exhibit No. E-157

- 5.15.3 Fastener withdrawal test result, **506.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-158).



Exhibit No. E-158

5.16 Test Location 5-16-C

- 5.16.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 5.16.2 The roof system has approximately 12.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-159.



Exhibit No. E-159

- 5.16.3 Fastener withdrawal test result, **515.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-160).



Exhibit No. E-160

6.0 ROOF AREA # 6

6.1 Test Location 6-01-C

- 6.1.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 6.1.2 The roof system has approximately 5.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-161.



Exhibit No. E-161

- 6.1.3 Fastener withdrawal test result, **631.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-162).



Exhibit No. E-162

6.2 Test Location 6-02-P

- 6.2.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 6.2.2 The roof system has approximately 4.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-163.



Exhibit No. E-163

- 6.2.3 Fastener withdrawal test result, **532.8 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-164).



Exhibit No. E-164

6.3 Test Location 6-03-P

6.3.1 Steel roof deck in good condition with no evidence of rust corrosion.

6.3.2 The roof system has approximately 7.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-165.



Exhibit No. E-165

6.3.3 Fastener withdrawal test result, **466.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-166).



Exhibit No. E-166

6.4 Test Location 6-04-C

6.4.1 Steel roof deck in good condition with no evidence of rust corrosion.

6.4.2 The roof system has approximately 12.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-167.



Exhibit No. E-167

6.4.3 Fastener withdrawal test result, **468.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-168).



Exhibit No. E-168

6.5 Test Location 6-05-P

- 6.5.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 6.5.2 The roof system has approximately 3.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-169.



Exhibit No. E-169

- 6.5.3 Fastener withdrawal test result, **488.8 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-170).



Exhibit No. E-170

6.6 Test Location 6-06-F

- 6.6.1 Steel roof deck in good condition with **moderate** evidence of rust corrosion.
- 6.6.2 The roof system has approximately 6" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-171.



Exhibit No. E-171

- 6.6.3 Fastener withdrawal test result, **414.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-172).



Exhibit No. E-172

6.7 Test Location 6-07-F

- 6.7.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 6.7.2 The roof system has approximately 7.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-173.



Exhibit No. E-173

- 6.7.3 Fastener withdrawal test result, **547.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-174).



Exhibit No. E-174

6.8 Test Location 6-08-P

6.8.1 Steel roof deck in good condition with no evidence of rust corrosion.

6.8.2 The roof system has approximately 13" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-175.



Exhibit No. E-175

6.8.3 Fastener withdrawal test result, **493.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-176).



Exhibit No. E-176

6.9 Test Location 6-09-F

6.9.1 Steel roof deck in good condition with no evidence of rust corrosion.

6.9.2 The roof system has approximately 6.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-177.



Exhibit No. E-177

6.9.3 Fastener withdrawal test result, **437.7 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-178).



Exhibit No. E-178

6.10 Test Location 6-10-C

- 6.10.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 6.10.2 The roof system has approximately 5.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-179.



Exhibit No. E-179

- 6.10.3 Fastener withdrawal test result, **490.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-180).



Exhibit No. E-180

6.11 Test Location 6-11-P

- 6.11.1 Steel roof deck in good condition with **slight** evidence of rust corrosion.
- 6.11.2 The roof system has approximately 4.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-181.



Exhibit No. E-181

- 6.11.3 Fastener withdrawal test result, **425.4 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-182).



Exhibit No. E-182

6.12 Test Location 6-12-P

- 6.12.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 6.12.2 The roof system has approximately 8" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-183.



Exhibit No. E-183

- 6.12.3 Fastener withdrawal test result, **605.1 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-184).



Exhibit No. E-184

6.13 Test Location 6-13-P

- 6.13.1 Steel roof deck in good condition with slight evidence of rust corrosion.
- 6.13.2 The roof system has approximately 12.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-185.



Exhibit No. E-185

- 6.13.3 Fastener withdrawal test result, **558.7 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-186).



Exhibit No. E-186

7.0 ROOF AREA # 7

7.1 Test Location 7-01-C

- 7.1.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 7.1.2 The roof system has approximately 4.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-187.



Exhibit No. E-187

- 7.1.3 Fastener withdrawal test result, **484.6 LBS** resistance (reference attached

Test Results Table, Test Location Map and Photographic Exhibit No. E-188).



Exhibit No. E-188

7.2 Test Location 7-02-P

- 7.2.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 7.2.2 The roof system has approximately 5.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-189.



Exhibit No. E-189

- 7.2.3 Fastener withdrawal test result, **431.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-190).



Exhibit No. E-190

7.3 Test Location 7-03-P

- 7.3.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 7.3.2 The roof system has approximately 8.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-191.



Exhibit No. E-191

- 7.3.3 Fastener withdrawal test result, **480.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-192).



Exhibit No. E-192

7.4 Test Location 7-04-C

- 7.4.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 7.4.2 The roof system has approximately 13.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-193.



Exhibit No. E-193

- 7.4.3 Fastener withdrawal test result, **535.7 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-194).



Exhibit No. E-194

7.5 Test Location 7-05-F

- 7.5.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 7.5.2 The roof system has approximately 7" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-195.



Exhibit No. E-195

- 7.5.3 Fastener withdrawal test result, **431.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-196).



Exhibit No. E-196

7.6 Test Location 7-06-P

- 7.6.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 7.6.2 The roof system has approximately 5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-197.



Exhibit No. E-197

- 7.6.3 Fastener withdrawal test result, **395.6 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-198).



Exhibit No. E-198

7.7 Test Location 7-07-F

- 7.7.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 7.7.2 The roof system has approximately 4" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-199.



Exhibit No. E-199

- 7.7.3 Fastener withdrawal test result, **531.9 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-200).



Exhibit No. E-200

7.8 Test Location 7-08-F

- 7.8.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 7.8.2 The roof system has approximately 6.5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-201.



Exhibit No. E-201

- 7.8.3 Fastener withdrawal test result, **506.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-202).



Exhibit No. E-202

7.9 Test Location 7-09-P

- 7.9.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 7.9.2 The roof system has approximately 12.75" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-203.



Exhibit No. E-203

- 7.9.3 Fastener withdrawal test result, **845.8 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-204).



Exhibit No. E-204

7.10 Test Location 7-10-C

7.10.1 Steel roof deck in good condition with no evidence of rust corrosion.

7.10.2 The roof system has approximately 5" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-205.



Exhibit No. E-205

7.10.3 Fastener withdrawal test result, **574.0 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-206).



Exhibit No. E-206

7.11 Test Location 7-11-P

7.11.1 Steel roof deck in good condition with no evidence of rust corrosion.

7.11.2 The roof system has approximately 4.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in damaged condition with visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-207.



Exhibit No. E-207

7.11.3 Fastener withdrawal test result, **489.2 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-208).



Exhibit No. E-208

7.12 Test Location 7-12-P

- 7.12.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 7.12.2 The roof system has approximately 10.25" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-209.



Exhibit No. E-209

- 7.12.3 Fastener withdrawal test result, **530.3 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-210).



Exhibit No. E-210

7.13 Test Location 7-13-C

- 7.13.1 Steel roof deck in good condition with no evidence of rust corrosion.
- 7.13.2 The roof system has approximately 13" thick tapered polyisocyanurate insulation board. The roof insulation appeared in good condition with no visible evidence of moisture or related damage. Reference Photographic Exhibit No. E-211.



Exhibit No. E-211

- 7.13.3 Fastener withdrawal test result, **519.7 LBS** resistance (reference attached Test Results Table, Test Location Map and Photographic Exhibit No. E-212).



Exhibit No. E-212

8.0 EQUIPMENT USED DURING THE SURVEYS

8.1 Pull Tester Equipment Utilized

(Calibration certificate is available upon request.)

- Manufacturer: ComTen Industries
- Model: DFG2W2000, Digital Loading Cell up to 2,000 LBS
- Serial No.: 22103061
- Calibration Date: 08/05/2021
- Calibration Exp. Date: 08/05/2022 (TAS 105-11 11/04/2021)
- Calibration Certification No.: 28022

8.2 Surface Moisture Tester Equipment Utilized

- Manufacturer: Tramex Meters
- Model: RWS
- Serial No.: RWS 04213859

8.3 Pin Moisture Tester Equipment Utilized

- Manufacturer: Delmhorst
- Model: BD-2100
- Serial No.: 72262



Construction Moisture Consulting, Inc.
Tampa International Airport - North Air Cargo Building
TAS 105-11 Test Results Summary
October 6, 2021

Roof Area #1 - 1st Roof Section from South

Roof Section Actual: 210' length, 94' wide = 19.740 SF

Test	Test Location	Point of Failure	Gauge Reading	System Thickness	Rust Corrosion
1	1-01-C*	Fastener Withdrawal	427.4	3.5"	Slight
2	1-02-P	Fastener Withdrawal	494.1	5.25"	None
3	1-03-P*	Fastener Withdrawal	563.4	7.5"	None
4	1-04-C	Fastener Withdrawal	520.4	12.25"	None
5	1-05-P*	Fastener Withdrawal	508.5	4"	None
6	1-06-F	Fastener Withdrawal	482.5	5.75"	None
7	1-07-F*	Fastener Withdrawal	543.2	11.5"	None
8	1-08-P	Fastener Withdrawal	436.2	12.5"	None
9	1-09-P*	Fastener Withdrawal	512.6	3"	None
10	1-10-F	Fastener Withdrawal	510.5	4.5"	None
11	1-11-F	Fastener Withdrawal	436	7.5"	None
12	1-12-P	Fastener Withdrawal	599.8	12.25"	None
13	1-13-C*	Fastener Withdrawal	451.8	5.25"	None
14	1-14-P	Fastener Withdrawal	497.5	6"	Slight
15	1-15-P	Fastener Withdrawal	562.2	10"	None
16	1-16-C	Fastener Withdrawal	575.3	13"	None

General Notes:

1. Roof System Composition: Structural metal decking, mechanically attached fiberboard, multi-layer tapered insulation, fiberboard cover board, 3 plies of hot asphalt applied built-up roofing membrane covered with an asphalt flood coat with embedded protective gravel surfacing.
2. During the test cuts, CMC recorded the relative moisture content of the roof assembly. The measurements along the cover board (top portion of roof) generally matched the thermal anomaly locations indicated in the IR Inspection Report. See plan for additional information.
3. All test cuts revealed elevated relative moisture content at the mechanically attached fiberboard atop the steel roof deck (bottom portion of roof). See plan for additional information.
4. Steel Roof Deck Rust Corrosion Observed: None, Slight (surface corrosion), Moderate (deep surface corrosion) and Severe (structural damage).
5. C, P, F = Test Location Roof Zone (Corner - C, Perimeter - P, Field - F).
6. * = Test Location identified during IR scan as potential thermal anomaly.



Construction Moisture Consulting, Inc.
Tampa International Airport - North Air Cargo Building
TAS 105-11 Test Results Summary
October 7, 2021

Roof Area #2 - 2nd Roof Section from South

Roof Section Actual: 210' length, 94' wide = 19.740 SF

Test	Test Location	Point of Failure	Gauge Reading	System Thickness	Rust Corrosion
1	2-01-C*	Fastener Withdrawal	581.5	5"	None
2	2-02-P	Fastener Withdrawal	497.9	5.5"	None
3	2-03-P	Fastener Withdrawal	559.5	8.5"	None
4	2-04-C	Fastener Withdrawal	478.4	12.25"	None
5	2-05-P*	Fastener Withdrawal	547.2	4.25"	None
6	2-06-F	Fastener Withdrawal	488.7	4.75"	None
7	2-07-F	Fastener Withdrawal	500	7.5"	None
8	2-08-P	Fastener Withdrawal	597.6	12.5"	None
9	2-09-P*	Fastener Withdrawal	425.2	2.75"	None
10	2-10-F	Fastener Withdrawal	492.1	5.75"	None
11	2-11-F*	Fastener Withdrawal	572.2	10"	None
12	2-12-P	Fastener Withdrawal	547.7	13"	None
13	2-13-C*	Fastener Withdrawal	571.1	5"	None
14	2-14-P*	Fastener Withdrawal	504.1	5"	None
15	2-15-P	Fastener Withdrawal	498	8.75"	None
16	2-16-C	Fastener Withdrawal	519.6	13.25"	None

General Notes:

1. Roof System Composition: Structural metal decking, mechanically attached fiberboard, multi-layer tapered insulation, fiberboard cover board, 3 plies of hot asphalt applied built-up roofing membrane covered with an asphalt flood coat with embedded protective gravel surfacing.
2. During the test cuts, CMC recorded the relative moisture content of the roof assembly. The measurements along the cover board (top portion of roof) generally matched the thermal anomaly locations indicated in the IR Inspection Report. See plan for additional information.
3. All test cuts revealed elevated relative moisture content at the mechanically attached fiberboard atop the steel roof deck (bottom portion of roof). See plan for additional information.
4. Steel Roof Deck Rust Corrosion Observed: None, Slight (surface corrosion), Moderate (deep surface corrosion) and Severe (structural damage).
5. C, P, F = Test Location Roof Zone (Corner - C, Perimeter - P, Field - F).
6. * = Test Location identified during IR scan as potential thermal anomaly.



Construction Moisture Consulting, Inc.
Tampa International Airport - North Air Cargo Building
TAS 105-11 Test Results Summary
October 7, 2021

Roof Area #3 - 3rd Roof Section From South

Roof Section Actual: 210' length, 94' wide = 19.740 SF

Test	Test Location	Point of Failure	Gauge Reading	System Thickness	Rust Corrosion
1	3-01-C*	Decking Failure	179.2	3.5"	Severe
2	3-02-P*	Fastener Withdrawal	511.6	4.75"	None
3	3-03-P*	Fastener Withdrawal	702.2	8.75"	None
4	3-04-C	Fastener Withdrawal	530.4	13.25"	None
5	3-05-P*	Fastener Withdrawal	365	1.75"	Moderate
6	3-06-F	Fastener Withdrawal	452.9	5.75"	None
7	3-07-F*	Fastener Withdrawal	434.9	7.5"	None
8	3-08-P	Fastener Withdrawal	567.1	13"	None
9	3-09-P*	Decking Failure	103	2"	Severe
10	3-10-F	Fastener Withdrawal	523.6	5.75"	None
11	3-11-F*	Fastener Withdrawal	586.6	9.75"	None
12	3-12-P	Fastener Withdrawal	476.6	12.75"	None
13	3-13-C*	Fastener Withdrawal	511.3	5.25"	None
14	3-14-P	Fastener Withdrawal	554.9	5"	None
15	3-15-P	Fastener Withdrawal	505.9	7.5"	None
16	3-16-C	Fastener Withdrawal	479.3	13"	None

General Notes:

1. Roof System Composition: Structural metal decking, mechanically attached fiberboard, multi-layer tapered insulation, fiberboard cover board, 3 plies of hot asphalt applied built-up roofing membrane covered with an asphalt flood coat with embedded protective gravel surfacing.
2. During the test cuts, CMC recorded the relative moisture content of the roof assembly. The measurements along the cover board (top portion of roof) generally matched the thermal anomaly locations indicated in the IR Inspection Report. See plan for additional information.
3. All test cuts revealed elevated relative moisture content at the mechanically attached fiberboard atop the steel roof deck (bottom portion of roof). See plan for additional information.
4. Steel Roof Deck Rust Corrosion Observed: None, Slight (surface corrosion), Moderate (deep surface corrosion) and Severe (structural damage).
5. C, P, F = Test Location Roof Zone (Corner - C, Perimeter - P, Field - F).
6. * = Test Location identified during IR scan as potential thermal anomaly.



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Tampa International Airport - North Air Cargo Building
TAS 105-11 Test Results Summary
October 7, 2021 and October 8, 2021

Roof Area #4 - Center Roof Section

Roof Section Actual: 210' length, 94' wide = 19.740 SF

Test	Test Location	Point of Failure	Gauge Reading	System Thickness	Rust Corrosion
1	4-01-C*	Fastener Withdrawal	506	5"	None
2	4-02-P	Fastener Withdrawal	487.1	5"	None
3	4-03-P	Fastener Withdrawal	495.2	7"	None
4	4-04-C	Fastener Withdrawal	562.6	12.75"	None
5	4-05-P*	Fastener Withdrawal	516	2.5"	None
6	4-06-F	Fastener Withdrawal	550.1	5.25"	None
7	4-07-F	Fastener Withdrawal	534.1	8.75"	None
8	4-08-P	Fastener Withdrawal	635	12.75	None
9	4-09-P*	Fastener Withdrawal	478.6	3.5"	Moderate
10	4-10-F	Fastener Withdrawal	502.4	4.75"	None
11	4-11-F*	Fastener Withdrawal	426.3	9.5"	None
12	4-12-P	Fastener Withdrawal	437.3	12.25"	None
13	4-13-C*	Fastener Withdrawal	541.4	3.75"	Moderate
14	4-14-P*	Fastener Withdrawal	529.8	4.75"	Moderate
15	4-15-P*	Fastener Withdrawal	345.9	9.5"	None
16	4-16-C	Fastener Withdrawal	656	13"	None

General Notes:

1. Roof System Composition: Structural metal decking, mechanically attached fiberboard, multi-layer tapered insulation, fiberboard cover board, 3 plies of hot asphalt applied built-up roofing membrane covered with an asphalt flood coat with embedded protective gravel surfacing.
2. During the test cuts, CMC recorded the relative moisture content of the roof assembly. The measurements along the cover board (top portion of roof) generally matched the thermal anomaly locations indicated in the IR Inspection Report. See plan for additional information.
3. All test cuts revealed elevated relative moisture content at the mechanically attached fiberboard atop the steel roof deck (bottom portion of roof). See plan for additional information.
4. Steel Roof Deck Rust Corrosion Observed: None, Slight (surface corrosion), Moderate (deep surface corrosion) and Severe (structural damage).
5. C, P, F = Test Location Roof Zone (Corner - C, Perimeter - P, Field - F).
6. * = Test Location identified during IR scan as potential thermal anomaly.



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Tampa International Airport - North Air Cargo Building
TAS 105-11 Test Results Summary
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Roof Area #5 - 3rd Roof Section From North

Roof Section Actual: 210' length, 94' wide = 19.740 SF

Test	Test Location	Point of Failure	Gauge Reading	System Thickness	Rust Corrosion
1	5-01-C*	Fastener Withdrawal	501.5	4.5"	None
2	5-02-P	Fastener Withdrawal	480.2	4.25"	None
3	5-03-P	Fastener Withdrawal	513.3	8"	None
4	5-04-C	Fastener Withdrawal	492.7	13.25"	None
5	5-05-P*	Fastener Withdrawal	505.1	3.25"	None
6	5-06-F	Fastener Withdrawal	510.1	5.75"	None
7	5-07-F	Fastener Withdrawal	697.2	8.75"	None
8	5-08-P	Fastener Withdrawal	585.9	13.75"	None
9	5-09-P*	Fastener Withdrawal	491.7	2"	None
10	5-10-F	Fastener Withdrawal	610.5	5.5"	None
11	5-11-F*	Fastener Withdrawal	547.1	10.75"	None
12	5-12-P*	Fastener Withdrawal	668.4	12.5"	None
13	5-13-C*	Fastener Withdrawal	474	5"	None
14	5-14-P	Fastener Withdrawal	456.9	4.25"	None
15	5-15-P*	Fastener Withdrawal	506.4	6.75"	None
16	5-16-C	Fastener Withdrawal	515.4	12.75"	None

General Notes:

1. Roof System Composition: Structural metal decking, mechanically attached fiberboard, multi-layer tapered insulation, fiberboard cover board, 3 plies of hot asphalt applied built-up roofing membrane covered with an asphalt flood coat with embedded protective gravel surfacing.
2. During the test cuts, CMC recorded the relative moisture content of the roof assembly. The measurements along the cover board (top portion of roof) generally matched the thermal anomaly locations indicated in the IR Inspection Report. See plan for additional information.
3. All test cuts revealed elevated relative moisture content at the mechanically attached fiberboard atop the steel roof deck (bottom portion of roof). See plan for additional information.
4. Steel Roof Deck Rust Corrosion Observed: None, Slight (surface corrosion), Moderate (deep surface corrosion) and Severe (structural damage).
5. C, P, F = Test Location Roof Zone (Corner - C, Perimeter - P, Field - F).
6. * = Test Location identified during IR scan as potential thermal anomaly.



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Tampa International Airport - North Air Cargo Building
TAS 105-11 Test Results Summary
October 8, 2021 and October 12, 2021

Roof Area #6 - 2nd Roof Section From North

Roof Section Actual: 150' length, 94' wide = 14.100 SF

Test	Test Location	Point of Failure	Gauge Reading	System Thickness	Rust Corrosion
1	6-01-C*	Fastener Withdrawal	631	5.75"	None
2	6-02-P	Fastener Withdrawal	532.8	4.75"	None
3	6-03-P*	Fastener Withdrawal	466	7.75"	None
4	6-04-C	Fastener Withdrawal	468.2	12.75"	None
5	6-05-P*	Fastener Withdrawal	488.8	3.5"	None
6	6-06-F*	Fastener Withdrawal	414.1	6"	Moderate
7	6-07-F	Fastener Withdrawal	547.4	7.5"	None
8	6-08-P	Fastener Withdrawal	493.2	13"	None
9	6-09-F*	Fastener Withdrawal	437.7	6.5"	None
10	6-10-C*	Fastener Withdrawal	490.6	5.5"	None
11	6-11-P	Fastener Withdrawal	425.4	4.5"	Slight
12	6-12-P	Fastener Withdrawal	605.1	8"	None
13	6-13-C	Fastener Withdrawal	558.7	12.5"	Slight

General Notes:

1. Roof System Composition: Structural metal decking, mechanically attached fiberboard, multi-layer tapered insulation, fiberboard cover board, 3 plies of hot asphalt applied built-up roofing membrane covered with an asphalt flood coat with embedded protective gravel surfacing.
2. During the test cuts, CMC recorded the relative moisture content of the roof assembly. The measurements along the cover board (top portion of roof) generally matched the thermal anomaly locations indicated in the IR Inspection Report. See plan for additional information.
3. All test cuts revealed elevated relative moisture content at the mechanically attached fiberboard atop the steel roof deck (bottom portion of roof). See plan for additional information.
4. Steel Roof Deck Rust Corrosion Observed: None, Slight (surface corrosion), Moderate (deep surface corrosion) and Severe (structural damage).
5. C, P, F = Test Location Roof Zone (Corner - C, Perimeter - P, Field - F).
6. * = Test Location identified during IR scan as potential thermal anomaly.



Construction Moisture Consulting, Inc.
Tampa International Airport - North Air Cargo Building
TAS 105-11 Test Results Summary
October 12, 2021

Roof Area #7 - 1st Roof Section From North

Roof Section Actual: 150' length, 94' wide = 14,100 SF

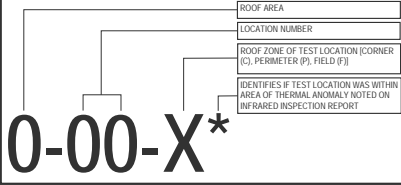
Test	Test Location	Point of Failure	Gauge Reading	System Thickness	Rust Corrosion
1	7-01-C*	Fastener Withdrawal	484.6	4.75"	None
2	7-02-P*	Fastener Withdrawal	431	5.5"	None
3	7-03-P	Fastener Withdrawal	480.6	8.75"	None
4	7-04-C	Fastener Withdrawal	535.7	13.75"	None
5	7-05-F*	Fastener Withdrawal	431.6	7"	None
6	7-06-P*	Fastener Withdrawal	395.6	5"	None
7	7-07-F	Fastener Withdrawal	531.9	4"	None
8	7-08-F	Fastener Withdrawal	506.2	6.5"	None
9	7-09-P	Fastener Withdrawal	845.8	12.75"	None
10	7-10-C*	Fastener Withdrawal	574	5"	None
11	7-11-P*	Fastener Withdrawal	489.2	4.25"	None
12	7-12-P	Fastener Withdrawal	530.3	10.25"	None
13	7-13-C	Fastener Withdrawal	519.7	13"	None

General Notes:

1. Roof System Composition: Structural metal decking, mechanically attached fiberboard, multi-layer tapered insulation, fiberboard cover board, 3 plies of hot asphalt applied built-up roofing membrane covered with an asphalt flood coat with embedded protective gravel surfacing.
2. During the test cuts, CMC recorded the relative moisture content of the roof assembly. The measurements along the cover board (top portion of roof) generally matched the thermal anomaly locations indicated in the IR Inspection Report. See plan for additional information.
3. All test cuts revealed elevated relative moisture content at the mechanically attached fiberboard atop the steel roof deck (bottom portion of roof). See plan for additional information.
4. Steel Roof Deck Rust Corrosion Observed: None, Slight (surface corrosion), Moderate (deep surface corrosion) and Severe (structural damage).
5. C, P, F = Test Location Roof Zone (Corner - C, Perimeter - P, Field - F).
6. * = Test Location identified during IR scan as potential thermal anomaly.

LEGEND

TPR-MC - TOP PORTION OF ROOF MOISTURE CONTENT
 BPR-MC - BOTTOM PORTION OF ROOF MOISTURE CONTENT



TEST LOCATION: 1-16-C
 GAUGE READING: 575.3
 TPR-MC - 19.5% / BPR-MC - 38.0%

TEST LOCATION: 1-15-P
 GAUGE READING: 562.2
 TPR-MC - 19.5% / BPR-MC - 45.8%

TEST LOCATION: 1-12-P
 GAUGE READING: 599.8
 TPR-MC - 20.3% / BPR-MC - 46.5%

TEST LOCATION: 1-11-F
 GAUGE READING: 436.0
 TPR-MC - 19.5% / BPR-MC - 37.3%

CORE 1
 TPR-MC - 86.2%

TEST LOCATION: 1-08-P
 GAUGE READING: 436.2
 TPR-MC - 21.2% / BPR-MC - 36.6%

TEST LOCATION: 1-07-F*
 GAUGE READING: 543.2
 TPR-MC - 82.1% / BPR-MC - 36.1%

TEST LOCATION: 1-03-P*
 GAUGE READING: 563.4
 TPR-MC - 29.5% / BPR-MC - 68.5%

TEST LOCATION: 1-04-C
 GAUGE READING: 520.4
 TPR-MC - 17.1% / BPR-MC - 40.8%

TEST LOCATION: 1-13-C*
 GAUGE READING: 451.8
 TPR-MC - 63.0% / BPR-MC - 39.4%

TEST LOCATION: 1-14-P
 GAUGE READING: 497.5
 TPR-MC - 24.0% / BPR-MC - 51.4%

***SLIGHT CORROSION
 OBSERVED ON DECKING***

TEST LOCATION: 1-10-F
 GAUGE READING: 510.5
 TPR-MC - 18.7% / BPR-MC - 36.6%

TEST LOCATION: 1-09-P*
 GAUGE READING: 512.6
 TPR-MC - 74.7% / BPR-MC - 30.2%



CORE 2
 TPR-MC - 8.2%

TEST LOCATION: 1-06-F
 GAUGE READING: 482.5
 TPR-MC - 15.5% / BPR-MC - 43.8%

TEST LOCATION: 1-05-P*
 GAUGE READING: 508.5
 TPR-MC - 99.9% / BPR-MC - 59.1%

TEST LOCATION: 1-02-P
 GAUGE READING: 494.1
 TPR-MC - 12.9% / BPR-MC - 40.1%

TEST LOCATION: 1-01-C*
 GAUGE READING: 427.4
 TPR-MC - 99.9% / BPR-MC - 99.9%

***SLIGHT CORROSION
 OBSERVED ON DECKING***

AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
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KEY PLAN



LEGEND

TPR-MC - TOP PORTION OF ROOF MOISTURE CONTENT
 BPR-MC - BOTTOM PORTION OF ROOF MOISTURE CONTENT

ROOF AREA
LOCATION NUMBER
ROOF ZONE OF TEST LOCATION (CORNER (C), PERIMETER (P), FIELD (F))
IDENTIFIES IF TEST LOCATION WAS WITHIN AREA OF THERMAL ANOMALY NOTED ON INFRARED INSPECTION REPORT

0-00-X*

TEST LOCATION: 2-16-C
 GAUGE READING: 519.6 lbs.
 TPR-MC - 9.1% / BPR-MC - 5.4%

TEST LOCATION: 2-15-P
 GAUGE READING: 498.0 lbs.
 TPR-MC - 22.8% / BPR-MC - 26.3%

TEST LOCATION: 2-12-P
 GAUGE READING: 547.7 lbs.
 TPR-MC - 12.9% / BPR-MC - 43.1%

TEST LOCATION: 2-11-F*
 GAUGE READING: 572.2 lbs.
 TPR-MC - 99.9% / BPR-MC - 37.3%

CORE 4
 TPR-MC - 3.6%

CORE 3
 TPR-MC - 99.9%

TEST LOCATION: 2-08-P
 GAUGE READING: 597.6 lbs.
 TPR-MC - 21.2% / BPR-MC - 21.2%

TEST LOCATION: 2-07-F
 GAUGE READING: 500.0 lbs.
 TPR-MC - 12.9% / BPR-MC - 40.1%

TEST LOCATION: 2-03-P
 GAUGE READING: 559.5 lbs.
 TPR-MC - 17.1% / BPR-MC - 36.6%

TEST LOCATION: 2-04-C
 GAUGE READING: 478.4 lbs.
 TPR-MC - 13.7% / BPR-MC - 33.2%

TEST LOCATION: 2-13-C*
 GAUGE READING: 571.1 lbs.
 TPR-MC - 17.1% / BPR-MC - 36.1%

TEST LOCATION: 2-14-P*
 GAUGE READING: 504.1 lbs.
 TPR-MC - 76.1% / BPR-MC - 23.6%

TEST LOCATION: 2-10-F
 GAUGE READING: 492.1 lbs.
 TPR-MC - 36.6% / BPR-MC - 34.6%

TEST LOCATION: 2-09-P*
 GAUGE READING: 425.2 lbs.
 TPR-MC - 91.9% / BPR-MC - 99.9%

TEST LOCATION: 2-06-F
 GAUGE READING: 488.7 lbs.
 TPR-MC - 12.9% / BPR-MC - 33.2%

TEST LOCATION: 2-05-P*
 GAUGE READING: 547.2 lbs.
 TPR-MC - 25.5% / BPR-MC - 39.4%

TEST LOCATION: 2-02-P
 GAUGE READING: 497.9 lbs.
 TPR-MC - 11.1% / BPR-MC - 36.6%

TEST LOCATION: 2-01-C*
 GAUGE READING: 581.5 lbs.
 TPR-MC - 40.1% / BPR-MC - 42.4%



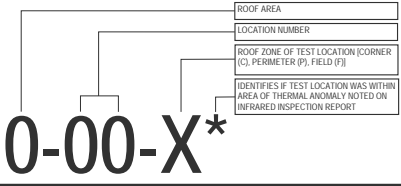
AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
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KEY PLAN



LEGEND

TPR-MC - TOP PORTION OF ROOF MOISTURE CONTENT
 BPR-MC - BOTTOM PORTION OF ROOF MOISTURE CONTENT



TEST LOCATION: 3-16-C
 GAUGE READING: 479.3 lbs.
 TPR-MC - 17.1% / BPR-MC - 34.6%

TEST LOCATION: 3-15-P
 GAUGE READING: 505.9 lbs.
 TPR-MC - 13.7% / BPR-MC - 40.8%

TEST LOCATION: 3-11-F*
 GAUGE READING: 386.6 lbs.
 TPR-MC - 99.9% / BPR-MC - 87.7%

TEST LOCATION: 3-12-P
 GAUGE READING: 476.6 lbs.
 TPR-MC - 9.1% / BPR-MC - 40.1%

CORE 5
 TPR-MC - 99.9%

TEST LOCATION: 3-07-F*
 GAUGE READING: 434.9 lbs.
 TPR-MC - 90.8% / BPR-MC - 66.2%

TEST LOCATION: 3-08-P
 GAUGE READING: 567.1 lbs.
 TPR-MC - 13.7% / BPR-MC - 36.1%

TEST LOCATION: 3-03-P*
 GAUGE READING: 702.2 lbs.
 TPR-MC - 99.9% / BPR-MC - 42.4%

TEST LOCATION: 3-04-C
 GAUGE READING: 530.4 lbs.
 TPR-MC - 17.9% / BPR-MC - 31.0%

TEST LOCATION: 3-13-C*
 GAUGE READING: 511.3 lbs.
 TPR-MC - 81.9% / BPR-MC - 99.9%

TEST LOCATION: 3-14-P
 GAUGE READING: 554.9 lbs.
 TPR-MC - 56.2% / BPR-MC - 43.8%

TEST LOCATION: 3-10-F
 GAUGE READING: 523.6 lbs.
 TPR-MC - 23.6% / BPR-MC - 36.1%

TEST LOCATION: 3-09-P*
 GAUGE READING: 103.0 lbs.
 TPR-MC - 99.9% / BPR-MC - 99.9%

***SEVERE CORROSION
 OBSERVED ON DECKING***

CORE 6
 TPR-MC - 10.0%

TEST LOCATION: 3-06-F
 GAUGE READING: 452.9 lbs.
 TPR-MC - 99.9% / BPR-MC - 42.4%

TEST LOCATION: 3-05-P*
 GAUGE READING: 365.0 lbs.
 TPR-MC - 99.9% / BPR-MC - 99.9%

***MODERATE CORROSION
 OBSERVED ON DECKING***

TEST LOCATION: 3-02-P*
 GAUGE READING: 511.6 lbs.
 TPR-MC - 28.6% / BPR-MC - 35.9%

TEST LOCATION: 3-01-C*
 GAUGE READING: 179.2 lbs.
 TPR-MC - 24.4% / BPR-MC - 12.0%

***SEVERE CORROSION
 OBSERVED ON DECKING***



AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
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KEY PLAN



LEGEND

TPR-MC - TOP PORTION OF ROOF MOISTURE CONTENT
 BPR-MC - BOTTOM PORTION OF ROOF MOISTURE CONTENT

ROOF AREA
 LOCATION NUMBER
 ROOF ZONE OF TEST LOCATION (CORNER (C), PERIMETER (P), FIELD (F))
 IDENTIFIES IF TEST LOCATION WAS WITHIN AREA OF THERMAL ANOMALY NOTED ON INFRARED INSPECTION REPORT

0-00-X*

TEST LOCATION: 4-16-C
 GAUGE READING: 656.0 lbs.
 TPR-MC - 10.0% / BPR-MC - 40.1%

TEST LOCATION: 4-15-P*
 GAUGE READING: 345.9 lbs.
 TPR-MC - 27.9% / BPR-MC - 99.9%

CORE 7
 TPR-MC - 77.9%

CORE 8
 TPR-MC - 29.4%

TEST LOCATION: 4-12-P
 GAUGE READING: 437.3 lbs.
 TPR-MC - 15.5% / BPR-MC - 36.6%

TEST LOCATION: 4-11-F*
 GAUGE READING: 426.3 lbs.
 TPR-MC - 24.0% / BPR-MC - 41.7%

TEST LOCATION: 4-07-F
 GAUGE READING: 534.1 lbs.
 TPR-MC - 21.2% / BPR-MC - 43.8%

TEST LOCATION: 4-08-P
 GAUGE READING: 635.0 lbs.
 TPR-MC - 18.7% / BPR-MC - 26.3%

TEST LOCATION: 4-03-P
 GAUGE READING: 495.2 lbs.
 TPR-MC - 17.9% / BPR-MC - 45.1%

TEST LOCATION: 4-04-C
 GAUGE READING: 562.6 lbs.
 TPR-MC - 15.5% / BPR-MC - 40.1%

TEST LOCATION: 4-13-C*
 GAUGE READING: 541.4 lbs.
 TPR-MC - 30.2% / BPR-MC - 57.9%

*MODERATE CORROSION
 OBSERVED ON DECKING*

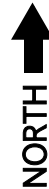
TEST LOCATION: 4-14-P*
 GAUGE READING: 529.8 lbs.
 TPR-MC - 99.9% / BPR-MC - 99.9%

*MODERATE CORROSION
 OBSERVED ON DECKING*

TEST LOCATION: 4-10-F
 GAUGE READING: 502.4 lbs.
 TPR-MC - 13.7% / BPR-MC - 35.9%

TEST LOCATION: 4-09-P*
 GAUGE READING: 478.6 lbs.
 TPR-MC - 49.7% / BPR-MC - 99.9%

*MODERATE CORROSION
 OBSERVED ON DECKING*



TEST LOCATION: 4-06-F
 GAUGE READING: 550.1 lbs.
 TPR-MC - 15.5% / BPR-MC - 44.4%

TEST LOCATION: 4-05-P*
 GAUGE READING: 516.0 lbs.
 TPR-MC - 37.3% / BPR-MC - 64.5%

TEST LOCATION: 4-02-P
 GAUGE READING: 487.1 lbs.
 TPR-MC - 20.3% / BPR-MC - 39.4%

TEST LOCATION: 4-01-C*
 GAUGE READING: 506.0 lbs.
 TPR-MC - 27.9% / BPR-MC - 36.6%

AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
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KEY PLAN

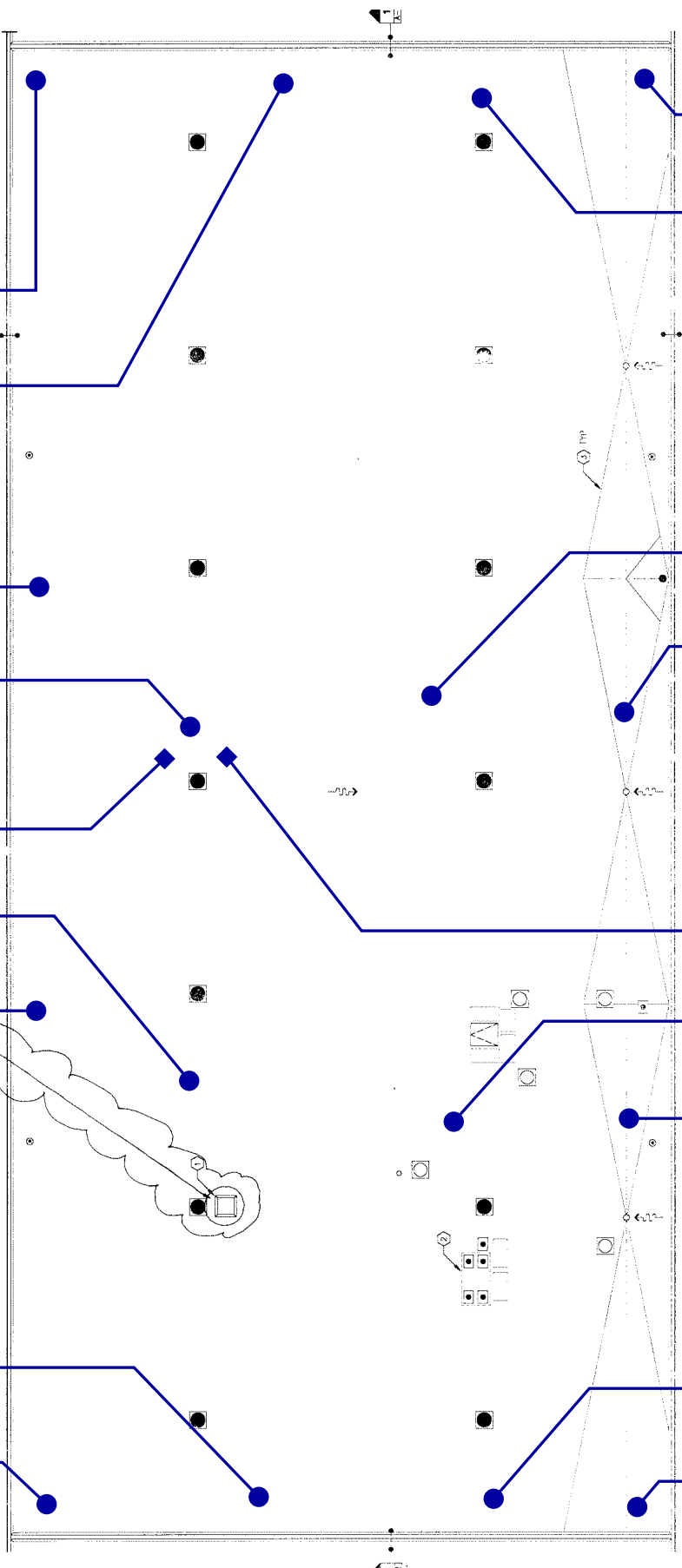
NORTH →

LEGEND

TPR-MC - TOP PORTION OF ROOF MOISTURE CONTENT
 BPR-MC - BOTTOM PORTION OF ROOF MOISTURE CONTENT

ROOF AREA
LOCATION NUMBER
ROOF ZONE OF TEST LOCATION (CORNER (C), PERIMETER (P), FIELD (F))
IDENTIFIES IF TEST LOCATION WAS WITHIN AREA OF THERMAL ANOMALY NOTED ON INFRARED INSPECTION REPORT

0-00-X*



TEST LOCATION: 5-13-C*
 GAUGE READING: 474.0 lbs.
 TPR-MC - 12.9% / BPR-MC - 99.9%

TEST LOCATION: 5-14-P
 GAUGE READING: 456.9 lbs.
 TPR-MC - 29.5% / BPR-MC - 30.2%

TEST LOCATION: 5-16-C
 GAUGE READING: 515.4 lbs.
 TPR-MC - 15.5% / BPR-MC - 99.9%

TEST LOCATION: 5-15-P*
 GAUGE READING: 506.4 lbs.
 TPR-MC - 25.5% / BPR-MC - 29.4%

TEST LOCATION: 5-12-P*
 GAUGE READING: 668.4 lbs.
 TPR-MC - 95.3% / BPR-MC - 62.5%

TEST LOCATION: 5-11-F*
 GAUGE READING: 547.1 lbs.
 TPR-MC - 66.6% / BPR-MC - 15.5%

TEST LOCATION: 5-10-F
 GAUGE READING: 610.5 lbs.
 TPR-MC - 10.0% / BPR-MC - 99.9%

TEST LOCATION: 5-09-P*
 GAUGE READING: 491.7 lbs.
 TPR-MC - 25.5% / BPR-MC - 29.5%

CORE 9
 TPR-MC - 71.6%

TEST LOCATION: 5-07-F
 GAUGE READING: 697.2 lbs.
 TPR-MC - 6.3% / BPR-MC - 99.9%

TEST LOCATION: 5-08-P
 GAUGE READING: 585.9 lbs.
 TPR-MC - 10.3% / BPR-MC - 99.9%

CORE 10
 TPR-MC - 3.6%

TEST LOCATION: 5-06-F
 GAUGE READING: 510.1 lbs.
 TPR-MC - 9.1% / BPR-MC - 33.2%

TEST LOCATION: 5-05-P*
 GAUGE READING: 505.1 lbs.
 TPR-MC - 16.3% / BPR-MC - 99.9%

TEST LOCATION: 5-03-P
 GAUGE READING: 513.3 lbs.
 TPR-MC - 10.3% / BPR-MC - 99.9%

TEST LOCATION: 5-04-C
 GAUGE READING: 492.7 lbs.
 TPR-MC - 13.7% / BPR-MC - 99.9%

TEST LOCATION: 5-02-P
 GAUGE READING: 480.2 lbs.
 TPR-MC - 17.1% / BPR-MC - 99.9%

TEST LOCATION: 5-01-C*
 GAUGE READING: 501.5 lbs.
 TPR-MC - 26.3% / BPR-MC - 40.4%

AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
--------	--------	--------	--------	--------	--------	--------

KEY PLAN

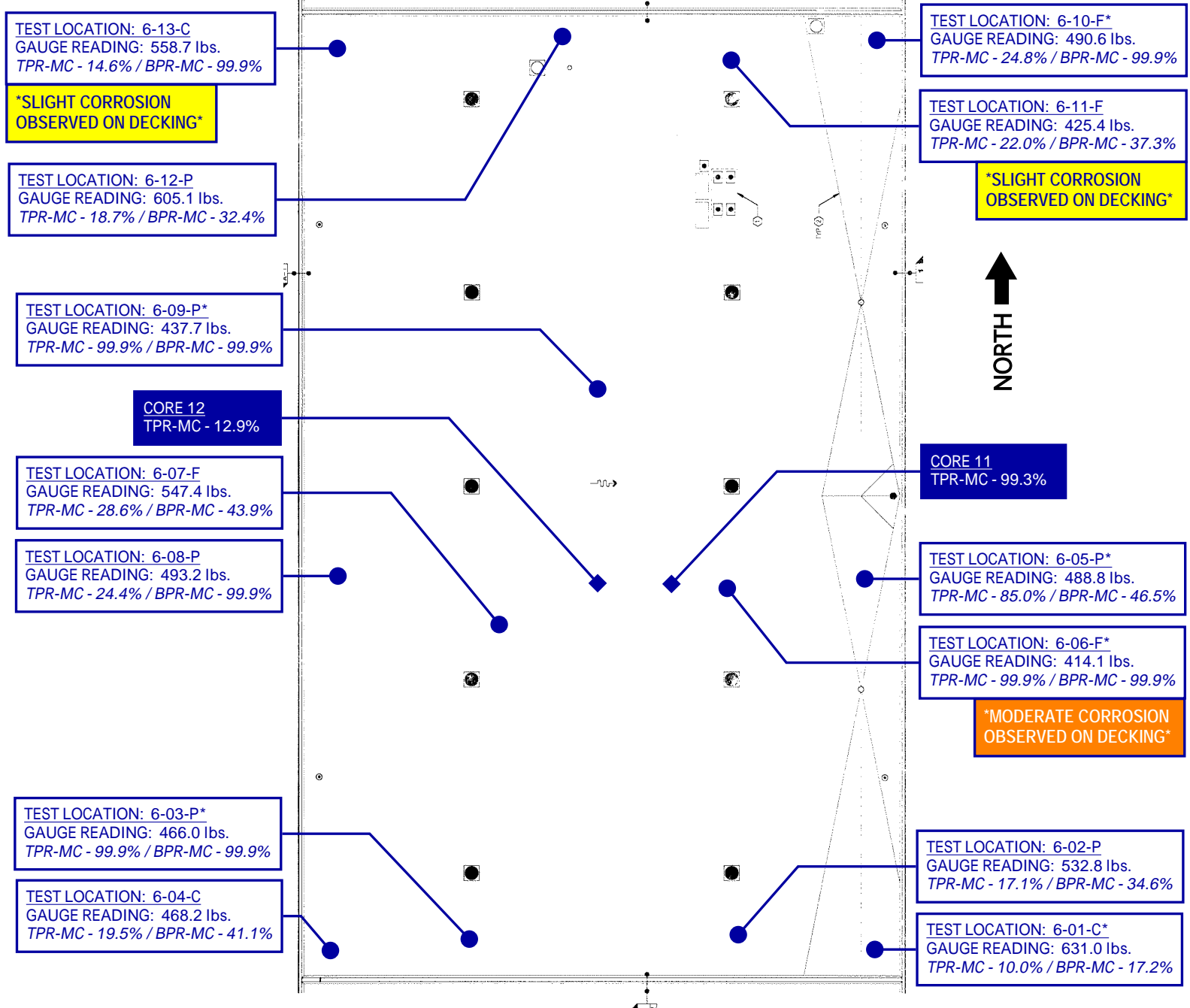
NORTH →

LEGEND

TPR-MC - TOP PORTION OF ROOF MOISTURE CONTENT
 BPR-MC - BOTTOM PORTION OF ROOF MOISTURE CONTENT

ROOF AREA
LOCATION NUMBER
ROOF ZONE OF TEST LOCATION (CORNER (C), PERIMETER (P), FIELD (F))
IDENTIFIES IF TEST LOCATION WAS WITHIN AREA OF THERMAL ANOMALY NOTED ON INFRARED INSPECTION REPORT

0-00-X*



AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
--------	--------	--------	--------	--------	--------	--------

KEY PLAN

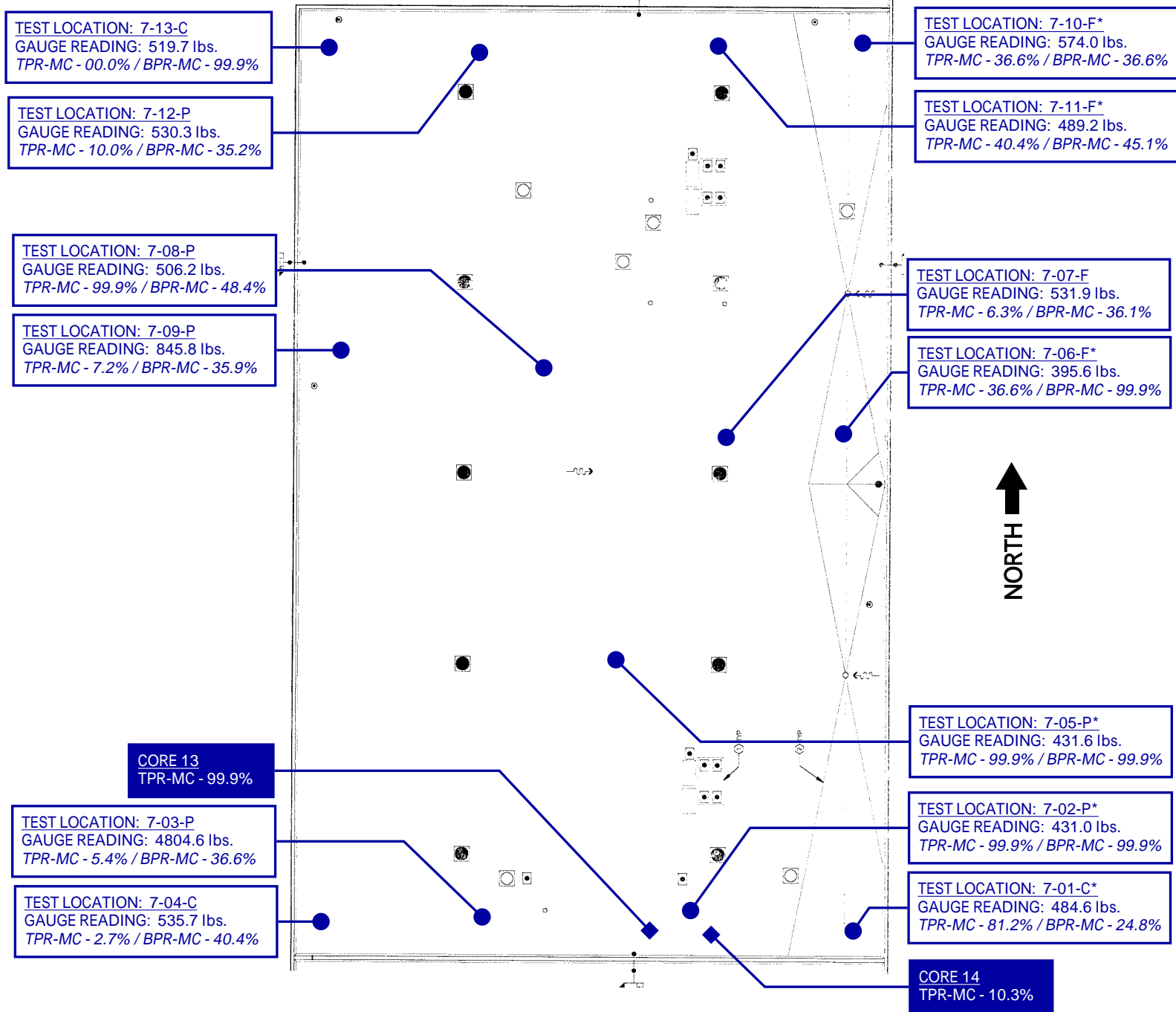
NORTH →

LEGEND

TPR-MC - TOP PORTION OF ROOF MOISTURE CONTENT
 BPR-MC - BOTTOM PORTION OF ROOF MOISTURE CONTENT

ROOF AREA
 LOCATION NUMBER
 ROOF ZONE OF TEST LOCATION (CORNER (C), PERIMETER (P), FIELD (F))
 IDENTIFIES IF TEST LOCATION WAS WITHIN AREA OF THERMAL ANOMALY NOTED ON INFRARED INSPECTION REPORT

0-00-X*



AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
--------	--------	--------	--------	--------	--------	--------

KEY PLAN

NORTH →



CMC
Construction Moisture
Consulting, Inc.
Roofing/Waterproofing/Exterior Walls/Glazing
Complete Building Envelope Specialists

APPENDIX “C”

PROFESSIONAL SERVICE INDUSTRIES, INC. PLM ANALYTICAL LABORATORY RESULTS REPORT



October 8, 2021

Professional Service Industries, Inc.
5801 Benjamin Center Drive, Suite 112, Tampa, FL 33634
Phone: (813) 886-1075
Fax: (813) 249-4916

Mr. Jon-Eric Macias, RRC, RRO, RCI
President
Construction Moisture Consulting, Inc.
4508 Oak Fair Boulevard, Ste. 200
Tampa, FL 33610-7387
Phone: 813-695-4048

Re: PLM Laboratory Analysis of Suspect Asbestos Roof Materials
Tampa International Airport
North Cargo Building
Tampa, Hillsborough County, Florida

Dear Mr. Macias:

Professional Service Industries, Inc. (PSI), an Intertek company, was contracted by Mr. Macias representing Construction Moisture Consulting, Inc. to have suspect asbestos roof materials analyzed by Polarized Light Microscopy (PLM) Laboratory Analysis associated with the North Cargo Building at the Tampa International Airport.

None of the fourteen (14) suspect asbestos roof samples analyzed were found to contain asbestos mineral fibers.

After your review of this information, if you have any questions or concerns, please do not hesitate to contact Mr. Michael Rothenburg at (813) 886-1075.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Brent Walker
AHERA Certified Asbestos Inspector

Michael W. Rothenburg, P.E., CIH
Principal Consultant
Florida Licensed Asbestos Consultant
License No. EA41

P:\552-Env\A-Reports 2021\05523377 CMC Builders Tampa Airport North Cargo Roof\05523377.doc





PLM ANALYTICAL LABORATORY RESULTS



REPORT OF BULK SAMPLE ANALYSIS FOR ASBESTOS

TESTED FOR: **PSI, Inc**
5801 Benjamin Center Drive Suite 112
Tampa, FL 33634
Attn: Brent Walker

Project ID: **05523377**
CMC Builders
Tampa International Airport
North Cargo Building Roof

Date Received: **10/7/2021**

Date Completed: **10/8/2021**

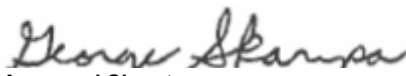
Date Reported: **10/8/2021**

Analyst: **Dan Anderson** Work Order: **2110139** Page: **1 of 3**

Client ID	Lab ID (Layer)	Sample Description (Color, Texture, Etc.) <i>Analyst's Comment</i>	Asbestos Content (Percent and Type)	Non-asbestos Fibers (Percent and Type)
01	001A	(1) Black, Roofing, Homogeneous (2) Black, Tar, Homogeneous (3) Brown, Insulation, Homogeneous (4) Black, Paper, Homogeneous (5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED	7% Fibrous Glass None Reported 50% Cellulose Fiber 15% Fibrous Glass None Reported
02	002A	(1) Black, Roofing, Homogeneous (2) Black, Tar, Homogeneous (3) Brown, Insulation, Homogeneous (4) Black, Paper, Homogeneous (5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED	7% Fibrous Glass None Reported 50% Cellulose Fiber 15% Fibrous Glass None Reported
03	003A	(1) Black, Roofing, Homogeneous (2) Black, Tar, Homogeneous (3) Brown, Insulation, Homogeneous (4) Black, Paper, Homogeneous (5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED	7% Fibrous Glass None Reported 50% Cellulose Fiber 15% Fibrous Glass None Reported
04	004A	(1) Black, Roofing, Homogeneous (2) Black, Tar, Homogeneous (3) Brown, Insulation, Homogeneous (4) Black, Paper, Homogeneous (5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED NO ASBESTOS DETECTED	7% Fibrous Glass None Reported 50% Cellulose Fiber 15% Fibrous Glass None Reported

Quantitation is based on a visual estimation of the relative area of bulk sample components, unless otherwise noted in the "Comments" section of this report. The results are valid only for the item tested as received. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Method used: E.P.A. Interim Method for the Determination of Asbestos in Bulk Insulation Samples (EPA 600/M4-82-020). Polarized Light Microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if the material can be considered or treated as non-asbestos containing. Samples will be disposed of within 30 days unless notified in writing by the client. No part of this report may be reproduced, except in full, without written permission of the laboratory. The reporting limit is 1% by weight. NVLAP Lab Code 101350-0.

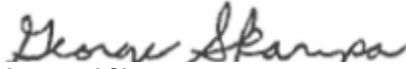
Respectfully submitted,
PSI, Inc.


Approved Signatory
George Skarupa

Client ID	Lab ID (Layer)	Sample Description (Color, Texture, Etc.) <i>Analyst's Comment</i>	Asbestos Content (Percent and Type)	Non-asbestos Fibers (Percent and Type)
05	005A	(1) Black, Roofing, Homogeneous	NO ASBESTOS DETECTED	7% Fibrous Glass
		(2) Black, Tar, Homogeneous	NO ASBESTOS DETECTED	None Reported
		(3) Brown, Insulation, Homogeneous	NO ASBESTOS DETECTED	50% Cellulose Fiber
		(4) Black, Paper, Homogeneous	NO ASBESTOS DETECTED	15% Fibrous Glass
		(5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED	None Reported
06	006A	(1) Black, Roofing, Homogeneous	NO ASBESTOS DETECTED	7% Fibrous Glass
		(2) Black, Tar, Homogeneous	NO ASBESTOS DETECTED	None Reported
		(3) Brown, Insulation, Homogeneous	NO ASBESTOS DETECTED	50% Cellulose Fiber
		(4) Black, Paper, Homogeneous	NO ASBESTOS DETECTED	15% Fibrous Glass
		(5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED	None Reported
07	007A	(1) Black, Roofing, Homogeneous	NO ASBESTOS DETECTED	7% Fibrous Glass
		(2) Black, Tar, Homogeneous	NO ASBESTOS DETECTED	None Reported
		(3) Brown, Insulation, Homogeneous	NO ASBESTOS DETECTED	50% Cellulose Fiber
		(4) Black, Paper, Homogeneous	NO ASBESTOS DETECTED	15% Fibrous Glass
		(5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED	None Reported
08	008A	(1) Black, Roofing, Homogeneous	NO ASBESTOS DETECTED	7% Fibrous Glass
		(2) Black, Tar, Homogeneous	NO ASBESTOS DETECTED	None Reported
		(3) Brown, Insulation, Homogeneous	NO ASBESTOS DETECTED	50% Cellulose Fiber
		(4) Black, Paper, Homogeneous	NO ASBESTOS DETECTED	15% Fibrous Glass
		(5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED	None Reported
09	009A	(1) Black, Roofing, Homogeneous	NO ASBESTOS DETECTED	7% Fibrous Glass
		(2) Black, Tar, Homogeneous	NO ASBESTOS DETECTED	None Reported
		(3) Brown, Insulation, Homogeneous	NO ASBESTOS DETECTED	50% Cellulose Fiber
		(4) Black, Paper, Homogeneous	NO ASBESTOS DETECTED	15% Fibrous Glass
		(5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED	None Reported
10	010A	(1) Black, Roofing, Homogeneous	NO ASBESTOS DETECTED	7% Fibrous Glass
		(2) Black, Tar, Homogeneous	NO ASBESTOS DETECTED	None Reported
		(3) Brown, Insulation, Homogeneous	NO ASBESTOS DETECTED	50% Cellulose Fiber
		(4) Black, Paper, Homogeneous	NO ASBESTOS DETECTED	15% Fibrous Glass
		(5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED	None Reported
11	011A	(1) Black, Roofing, Homogeneous	NO ASBESTOS DETECTED	7% Fibrous Glass
		(2) Black, Tar, Homogeneous	NO ASBESTOS DETECTED	None Reported
		(3) Brown, Insulation, Homogeneous	NO ASBESTOS DETECTED	50% Cellulose Fiber
		(4) Black, Paper, Homogeneous	NO ASBESTOS DETECTED	15% Fibrous Glass
		(5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED	None Reported

Quantitation is based on a visual estimation of the relative area of bulk sample components, unless otherwise noted in the "Comments" section of this report. The results are valid only for the item tested as received. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Method used: E.P.A. Interim Method for the Determination of Asbestos in Bulk Insulation Samples (EPA 600/M4-82-020). Polarized Light Microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if the material can be considered or treated as non-asbestos containing. Samples will be disposed of within 30 days unless notified in writing by the client. No part of this report may be reproduced, except in full, without written permission of the laboratory. The reporting limit is 1% by weight. NVLAP Lab Code 101350-0.

Respectfully submitted,
PSI, Inc.

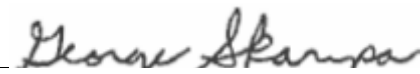

Approved Signatory
George Skarupa

Client ID	Lab ID (Layer)	Sample Description (Color, Texture, Etc.) <i>Analyst's Comment</i>	Asbestos Content (Percent and Type)	Non-asbestos Fibers (Percent and Type)
12	012A	(1) Black, Roofing, Homogeneous	NO ASBESTOS DETECTED	7% Fibrous Glass
		(2) Black, Tar, Homogeneous	NO ASBESTOS DETECTED	None Reported
		(3) Brown, Insulation, Homogeneous	NO ASBESTOS DETECTED	50% Cellulose Fiber
		(4) Black, Paper, Homogeneous	NO ASBESTOS DETECTED	15% Fibrous Glass
		(5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED	None Reported
13	013A	(1) Black, Roofing, Homogeneous	NO ASBESTOS DETECTED	7% Fibrous Glass
		(2) Black, Tar, Homogeneous	NO ASBESTOS DETECTED	None Reported
		(3) Brown, Insulation, Homogeneous	NO ASBESTOS DETECTED	50% Cellulose Fiber
		(4) Black, Paper, Homogeneous	NO ASBESTOS DETECTED	15% Fibrous Glass
		(5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED	None Reported
14	014A	(1) Black, Roofing, Homogeneous	NO ASBESTOS DETECTED	7% Fibrous Glass
		(2) Black, Tar, Homogeneous	NO ASBESTOS DETECTED	None Reported
		(3) Brown, Insulation, Homogeneous	NO ASBESTOS DETECTED	50% Cellulose Fiber
		(4) Black, Paper, Homogeneous	NO ASBESTOS DETECTED	15% Fibrous Glass
		(5) Yellow, Foam, Homogeneous	NO ASBESTOS DETECTED	None Reported

Report Notes: (PT) Point Count Results

Quantitation is based on a visual estimation of the relative area of bulk sample components, unless otherwise noted in the "Comments" section of this report. The results are valid only for the item tested as received. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Method used: E.P.A. Interim Method for the Determination of Asbestos in Bulk Insulation Samples (EPA 600/M4-82-020). Polarized Light Microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Quantitative Transmission Electron Microscopy is currently the only method that can be used to determine if the material can be considered or treated as non-asbestos containing. Samples will be disposed of within 30 days unless notified in writing by the client. No part of this report may reproduced, except in full, without written permission of the laboratory. The reporting limit is 1% by weight. NVLAP Lab Code 101350-0.

Respectfully submitted,
PSI, Inc.



Approved Signatory
George Skarupa



2110139

SAMPLE SUBMISSION REPORT

To: PSI Pittsburgh Lab	(1)	PSI Order No. 05523377	(5)	<input type="checkbox"/> Q <input type="checkbox"/> Non Q	(8)
From: PSI Tampa Office	(2)	Date Shipped 10/6/21	(6)	Carrier Fed-Ex	(9)
Client: CMC Builders	(3)	Date Sample Obtained 10/5/21	(7)	Sampled By JS	(10)
Project: Tampa International Airport, North Cargo Building Roof	(4)				
Type of Sample Suspect ACM	(11)	Sample Size/Quantity 14	(12)		
Type of Sample Containers Plastic Packets	(13)	No. of Containers 14	(14)		
Identification Markings on Sample/Container 01 to 14	(15)				
Sample Represents Suspect ACM	(16)				
Required Tests PLM	(17)				
Specifications	(18)				
Disposition of Residual Sample <input type="checkbox"/> Discard <input type="checkbox"/> Return to Client <input type="checkbox"/> Return to PSI Office Submitting Sample <input checked="" type="checkbox"/> Other (See Remarks) 30 Days	(19)				
Reporting Instructions <input checked="" type="checkbox"/> Report to PSI Office Submitting Sample <input type="checkbox"/> Report to Client per PSI Order <input type="checkbox"/> Other (See Remarks)	(20)				
Special Instructions <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (See Remarks)	(21)	Submitted & Reviewed By:	(23)		
Attachments <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Number 2)	(22)				
Remarks Analyze All. Only Analyze Materials on Field Logs. Need "Next-Day" Results by 2:30ish on Friday, 10/8/21. No HA's listed on Field Logs. No HA's on Result Sheets Please	(24)				

ACKNOWLEDGEMENT

Date Received 10/7/2021 9:00am	(25)	Received by (Dept./Office) <i>[Signature]</i>	(26)
STATUS	(27)		
<input type="checkbox"/> Work proceeding, estimated reporting date: _____ <input type="checkbox"/> Work NOT proceeding, incomplete instructions (See Remarks). <input type="checkbox"/> Work NOT proceeding, insufficient sample quantity/size (See Remarks). <input type="checkbox"/> Work NOT proceeding, (See Remarks).			
Lab No. Assigned	(28)	Receiving Office Representative	(29)
Remarks	(30)		

INSTRUCTIONS ON REVERSE SIDE

HA	Sample Number	Material Description	Sample Location	Approximate Quantity	Comments		
② N/A	01	Black Asphalt Build-Up Roof Core and black tar and brown insulation and black Foam Insulation Paper	Tampa International Airport North Cargo Building		Roof Section 1 ↓		
	—			"C1"			
	—						
②	02	Black Asphalt Build-Up Roof Core and Black tar and brown insulation and black Foam insulation Paper					"C2"
	—						
	—						
②	03	Black Asphalt Build-Up Roof Core and black tar and brown insulation and black Foam Insulation Paper					Roof Section 2 ↓
	—					"C3"	
	—						
②	04	Black Asphalt Build-Up Roof Core and Black tar and brown insulation and black Foam Insulation Paper			Roof Section 3 ↓		
	—			"C4"			
	—						
②	05	"				Roof Section 4 ↓	
	—	"		"C5"			
	—	"					
②	06	"					Roof Section 4 ↓
	—	"		"C6"			
	—	"					
②	07	"			Roof Section 4 ↓		
	—	"		"C7"			
	—	"					
②	08	"				Roof Section 4 ↓	
	—	"		"C8"			
	—	"					



LABORATORY CERTIFICATIONS



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Intertek-PSI, Inc.
PSI, Inc.
850 Poplar Street
Pittsburgh, PA 15220
Ms. Catherine McNamee
Phone: 412-922-4010 x286 Fax: 412-922-4014
Email: cathy.mcnamee@intertek.com
<http://www.intertek.com>

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101350-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

A handwritten signature in black ink, appearing to read "Dana J. Laman".

For the National Voluntary Laboratory Accreditation Program

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101350-0

Intertek-PSI, Inc.
Pittsburgh, PA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2021-07-01 through 2022-06-30

Effective Dates



[Signature]
For the National Voluntary Laboratory Accreditation Program

NORTH AIR CARGO ROOF REHABILITATION

APPENDIX B: VISUAL ROOF ASSESSMENT

HCAA PROJECT NO. 6530 18



CMC
Construction Moisture
Consulting, Inc.
Roofing/Waterproofing/Exterior Walls/Glazing
Complete Building Envelope Specialists

**CMC REPORT
FOR VISUAL ROOF ASSESSMENT**

PREPARED FOR:

RS&H, INC.

**Tampa International Airport
North Air Cargo Building
4720 North Hoover Boulevard
Tampa, Florida 33614
RS&H Project No.: 204-0001-045
CMC Project No.: 21-04038**

Prepared by:
Construction Moisture Consulting, Inc.
Jon-Eric Macias, RRC, RRO, IIBEC - President/CEO
Terry A. Driggs, Associate
June 3, 2021



June 3, 2021

RS&H, Inc.
1715 North Westshore Boulevard, Suite 600
Tampa, Florida 33607

Attn: Mr. Michael Blackmore, PE - Senior Aviation Engineer

Project: Tampa International Airport - North Air Cargo Building
4720 North Hoover Boulevard, Tampa, Florida 33614
RS&H Project No.: 204-0001-045 / CMC Project No.: 21-04038

Re: CMC Report for Visual Roof Assessment

Dear Mr. Blackmore:

On May 27, 2021, Construction Moisture Consulting, Inc. (CMC) conducted a visual roof assessment while accompanied by you, additional RS&H, Inc. (RS&H) staff, in addition to being escorted by the Hillsborough County Aviation Authority (HCAA) personnel while entering the tenant space at the above referenced project. The following summarizes our observations with corresponding photographs depicting examples of items reported and our opinions and recommendations. In addition, roof plans have been included as an attachment which are intended to indicate general locations of example conditions reported which should not be misconstrued as information intended to identify all project-wide conditions or all items in need of attention.

1.0 INTERIOR OBSERVATIONS

- 1.1 Prior to walking the roof, the building interior was reviewed at readily accessible areas (without disrupting tenant operations) for purposes of identifying anomalies that may be attributable to roof conditions or reports of building interior water intrusion.
- 1.2 Multiple areas were observed with abandoned fasteners through rooftop mechanical exhaust fans resulting in detectable daylight as viewed from the interior which represent points of water intrusion into the building (reference Photographic Exhibit Nos. E-01 through E-03 and attached roof plan for additional information).



Exhibit No. E-01



Exhibit No. E-02

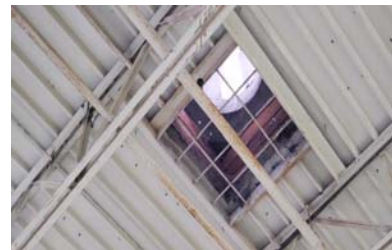


Exhibit No. E-03

- 1.3 Multiple areas were observed with corrosion and peeling paint on the underside of the roof deck which appeared to correspond to some of the observed roofing anomalies (reference Photographic Exhibit Nos. E-04 through E-06 and the attached roof plan for additional information).



Exhibit No. E-04



Exhibit No. E-05



Exhibit No. E-06

- 1.4 At least 1 area was observed with what appeared to be an abandoned PVC plumbing vent stack that had not been capped resulting in an unobstructed opening for water leakage into the building (reference Photographic Exhibit No. E-07 and the attached roof plan for additional information).



Exhibit No. E-07

- 1.5 Multiple areas were observed with what appeared to be abandoned PVC plumbing vent stacks that had been capped on the interior side of the building (under the roof deck) though the top of the stacks were open/uncapped which allows water to collect in the PVC pipe. As a result, these conditions may be contributing sources of water leakage into the building. Reference Photographic Exhibit Nos. E-08 through E-10 and the attached roof plan for additional information.



Exhibit No. E-08



Exhibit No. E-09



Exhibit No. E-10

- 1.6 Multiple areas were observed with signs of roof deck corrosion around roof penetrations (e.g., curbs, etc.) which appeared to be resultant of past or current areas of leakage through the roof membrane base flashing (reference Photographic Exhibit Nos. E-11 through E-13 and the attached roof plans for additional information).



Exhibit No. E-11



Exhibit No. E-12



Exhibit No. E-13

- 1.7 Multiple areas were observed with significant daylight as seen from the interior due to extremely weather deteriorated sealants in cavities between the exterior precast concrete wall panels. Although such conditions are not roofing related, they do represent avenues for water leakage into the building. Reference Photographic Exhibit Nos. E-14 through E-16 and the attached roof plan for additional information.



Exhibit No. E-14



Exhibit No. E-15



Exhibit No. E-16

2.0 ROOFING OBSERVATIONS

- 2.1 The roof appeared to be generally comprised of adhered asphalt built-up roofing (BUR) membrane covered with gravel surfacing embedded in a bitumen flood coat atop mechanically fastened rigid insulation over a steel roof deck. The overall roof is subdivided into multiple sections via expansion joints. Roof drainage is provided through internal/primary roof drains with adjacent emergency overflow through-wall scuppers though the scuppers are limited to 1 per roof section (as opposed to 1 per primary roof drain). It is our understanding the roof's sections are approximately 27 years old (replaced circa 1994).
- 2.2 The BUR membrane is intended to be protected/concealed by the gravel surfacing (embedded in a bitumen flood coat) from deterioration associated with direct ultraviolet (UV) light exposure. In addition, the gravel surfacing protects the BUR membrane from impact damage (hail, etc.) and also provides fire resistance at the roof surface. During our survey, numerous areas were observed with exposed roofing membrane which was severely weather deteriorated. In addition, multiple locations were observed with large portions of severely weather deteriorated (exposed) roofing membrane. The overall condition of the BUR was noticeably aged (as expected for a 27 year old BUR) and areas with exposed (unprotected) roof membrane was most weathered which will deteriorate more rapidly. Reference Photographic Exhibit Nos. E-17 through E-19 and the attached roof plan for additional information.



Exhibit No. E-17



Exhibit No. E-18



Exhibit No. E-19

- 2.3 The roof membrane wall flashing was ceramic granular surfaced modified bitumen membrane which appeared newer than the original roof. However, the membrane was exhibiting signs of weather deterioration (hairline cracks in the surface) with the most significant areas of deterioration noted along the roof membrane lap seams. In addition, areas were noted with open or partially open roof membrane lap seams which are likely sources of water penetration into the roofing system and the building. Reference Photographic Exhibit Nos. E-20 through E-22 and the attached roof plan for additional information.



Exhibit No. E-20



Exhibit No. E-21



Exhibit No. E-22

- 2.4 Multiple areas were observed with weather deteriorated roof membrane base flashing lap seams on mechanical curbs. In addition, numerous locations were observed with partially open or open roof membrane base flashing lap seams which represent probable paths for water migration into the roofing system and the building. Reference Photographic Exhibit Nos. E-23 through E-25 and the attached roof plan for additional information.

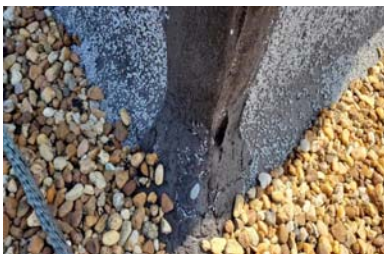


Exhibit No. E-23



Exhibit No. E-24

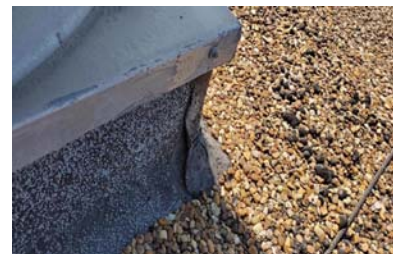


Exhibit No. E-25

- 2.5 Numerous locations were observed throughout the roof with blisters within membrane plies or beneath the BUR membrane which is typically indicative of entrapped moisture in the roofing system. Also note, these areas represent very fragile areas which can be damaged when subjected to foot traffic. Reference the attached roof plan for additional information (photographs not available).

- 2.6 Areas were noted with open/unsealed edges of the sheet metal expansion joint covers as well as inadequately sealed roof membrane laps along raised expansion joint curbs. In addition, numerous locations were observed with significant surface rust corrosion on galvanized sheet metal expansion joint covers though no areas were found where the corrosion had penetrated the metal. Reference Photographic Exhibit Nos. E-26 through E-28 and the attached roof plan for additional information.



Exhibit No. E-26



Exhibit No. E-27



Exhibit No. E-28

- 2.7 One (1) damaged/torn lead plumbing vent stack flashing was observed which represents a direct path for water leakage into the building (reference Photographic Exhibit No. E-29 and the attached roof plan for additional information).



Exhibit No. E-29

- 2.8 One (1) seemingly abandoned PVC pipe plumbing stack had been filled with what appeared to be sprayed polyurethane foam insulation which will absorb and hold water. In addition, this condition represents a potential source of water leakage into the building should the interior side of the pipe be insufficiently sealed. Reference Photographic Exhibit No. E-30 and the attached roof plan for additional information.



Exhibit No. E-30

- 2.9 Although most of the pitch pans (sheet metal boxes) that house/seal penetrations such as roof equipment supports, conduit, etc., appeared to have been reasonably maintained, areas were observed where the sealant within the pitch pans was exhibiting signs of accelerated deterioration which require resealing. In addition, at least 1 location was noted with a damaged pitch pan which is a likely source of water

leakage into the tenant space below. Reference Photographic Exhibit Nos. E-31 through E-33 and the attached roof plan for additional information.



Exhibit No. E-31



Exhibit No. E-32



Exhibit No. E-33

- 2.10 Several areas were noted with insulated pipes inappropriately sealed within pitch pans and areas with pipe jacketing deteriorated or damaged which likely allows water to bypass the sealant and migrate into the building (reference Photographic Exhibit Nos. E-34 through E-36 and the attached roof plan for additional information).



Exhibit No. E-34



Exhibit No. E-35



Exhibit No. E-36

- 2.11 Several roof drains were noted with damaged (split/torn) lead apron flashing which are likely sources for water penetration into the roofing system and the building (reference Photographic Exhibit Nos. E-37 through E-39 and the attached roof plan for additional information).



Exhibit No. E-37

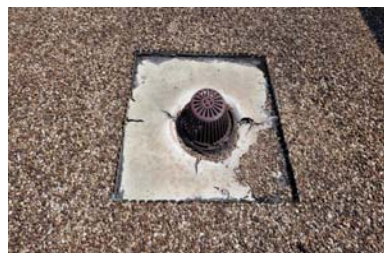


Exhibit No. E-38

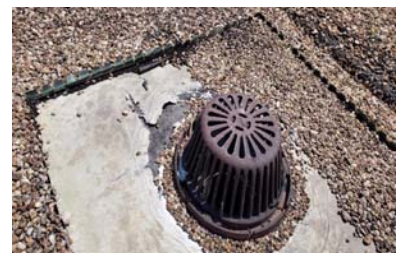


Exhibit No. E-39

- 2.12 One (1) small rooftop condensing unit was loose laid on a concrete pad (inadequately secured) which can result in severe roof damage during high windstorms. In addition, a roof mounted antenna was not adequately flashed/sealed. Also noted was a loose motor on the roof which may have damaged the concealed BUR membrane. Reference Photographic Exhibit Nos. E-40 through E-42 and the attached roof plan for additional information (photograph of loose motor not available).



Exhibit No. E-40



Exhibit No. E-41



Exhibit No. E-42

- 2.13 One (1) area was noted with a detached lightning protection mounting bracket with open/unsealed screw holes through a rooftop vent cover which represents an avenue for water penetration into the building (reference Photographic Exhibit No. E-43 and the attached roof plan for additional information).



Exhibit No. E-43

- 2.14 Also noted were areas with debris (e.g., leaves, etc.) on the roof surface which should be removed (reference Photographic Exhibit Nos. E-44 through E-46 and the attached roof plan for additional information).



Exhibit No. E-44



Exhibit No. E-45



Exhibit No. E-46

3.0 CONCLUSIONS/RECOMMENDATIONS

- 3.1 The existing roof has nearly approached the end of its useful service life though the waterproofing integrity of the building can be prolonged as long as each of the conditions noted in this report are properly addressed. This should include:
- 3.1.1 Protecting the roof membrane from direct UV light exposure.
 - 3.1.2 Inspecting/resealing all roof membrane wall flashing and base flashing on parapets, curbs, etc.
 - 3.1.3 Inspecting and *carefully* repairing the areas of roof membrane blistering.

- 3.1.4 Sealing all sheet metal expansion joints covers at all inadequately sealed joints, terminations. In addition, the surface rust corrosion on sheet metal expansion joint covers should be appropriately treated followed by applying a rust inhibiting primer and painting the metal with a suitable coating to stop further rust corrosion.
 - 3.1.5 All plumbing stacks should be inspected and properly sealed/flashed where required. In addition, all abandoned plumbing stacks with open/unsealed ends should be sealed/capped. This should also include repairing damaged/torn lead flashing.
 - 3.1.6 All pitch pans should be inspected and properly sealed. This should also include properly addressing/sealing areas with inappropriately placed/installed pipe insulation and pipe jacketing, and repairing damaged pitch pans.
 - 3.1.7 Damaged lead flashing in roof drains should be repaired though the least damaging way to address this will likely be to prime the metal flashing followed by installing 2 plies of modified bitumen roof membrane (1 smooth ply and 1 cap ply with ceramic granule surfacing).
 - 3.1.8 All inadequately secured rooftop equipment should be properly secured as soon as possible. All inadequately flashed/sealed items such as the roof mounted antenna should be addressed as soon as possible. In addition, any loose equipment such as motors, etc., should be removed from the roof surface followed by inspecting the roof membrane for damaged and repairing the roof membrane where required.
 - 3.1.9 All abandoned screw holes through the rooftop exhaust fans (or other conditions) should be caulked with an appropriate sealant (e.g., Dow® “DOWSIL™ 795”).
 - 3.1.10 The detached lightning protection mounting bracket with open/unsealed screw holes through a rooftop vent cover needs to be addressed (reattached) and properly sealed with appropriate sealant (e.g., Dow® “DOWSIL™ 795”).
 - 3.1.11 All sealants and backer rod between precast concrete wall panels should be removed/replaced with an appropriate sealant (e.g., Dow® “DOWSIL™ 790”).
- 3.2 Although addressing the aforementioned conditions will improve the waterproofing integrity of the building, we are unable to estimate the remaining service life of the building’s roof due to its age. However, conducting yearly roof inspections to identify items in need of attention and conducting roof inspections after significant

storm events to identify and repair items in need of attention may result in additional years of use though expecting 5 or more years of roof service life appears to be unrealistic. Lastly, it should be noted, roofs of this age can suddenly go into a state of rapid/accelerated failure though predicting when this may occur is not possible.

- 3.2.1 CMC strongly recommends all remedial roof work only be performed by a commercial roofing contractor with extensive experience in repairing aged BUR. In addition, foot traffic should be held to an absolute minimum due to the fragile state of the existing roof sections.

Should you have any questions, please feel free to contact me at your convenience at (813) 695-4048.

Respectfully,

CONSTRUCTION MOISTURE CONSULTING, INC.



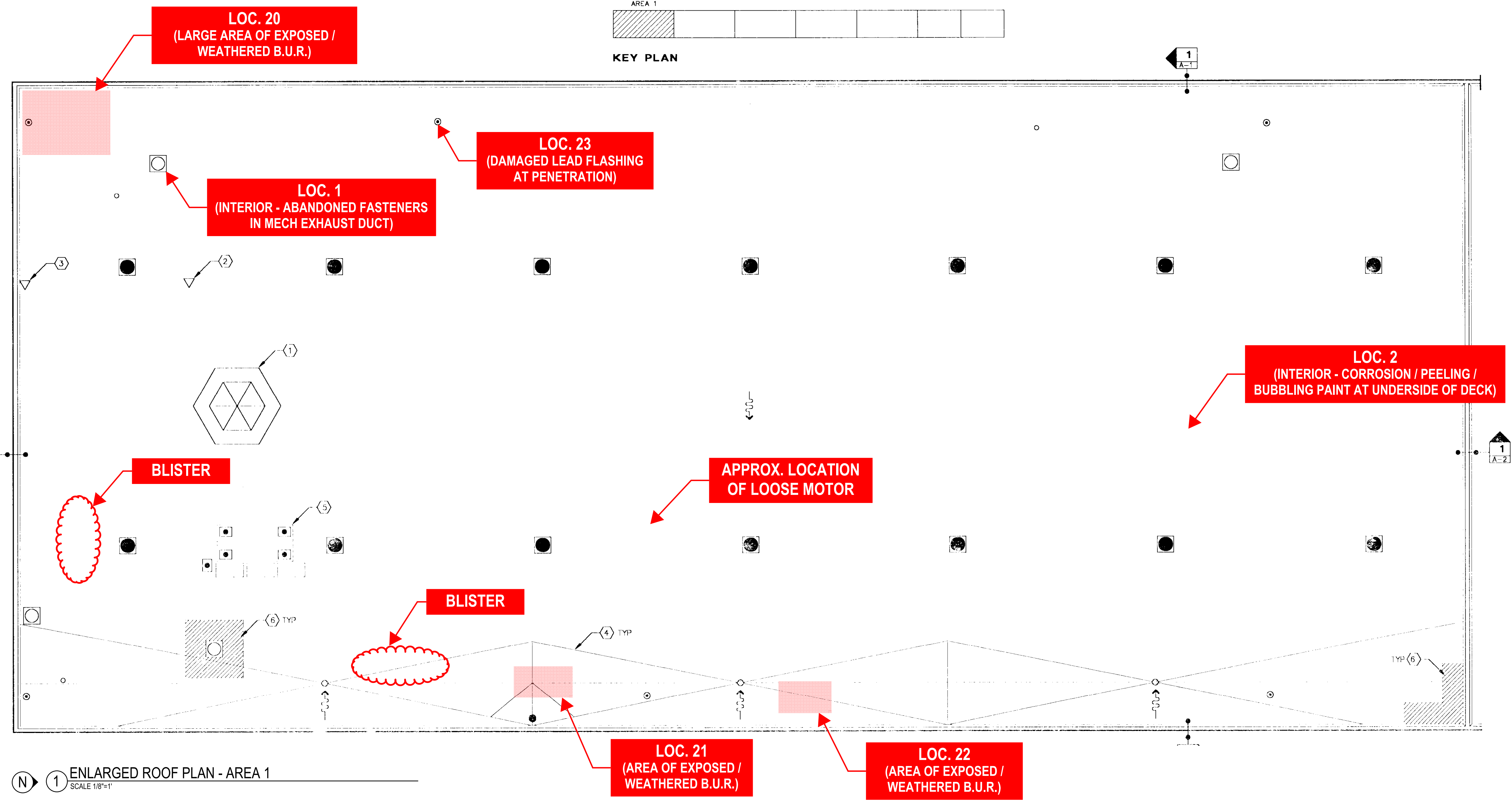
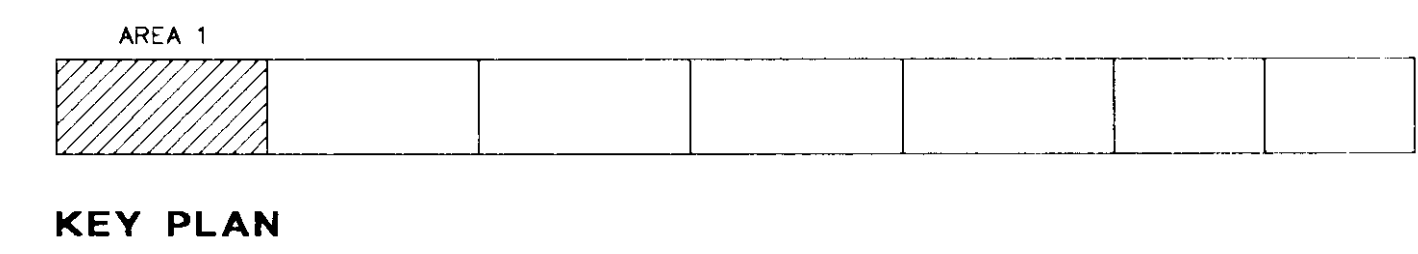
Jon-Eric Macias, RRC, RRO, IIBEC
President/CEO



Terry A. Driggs
Associate

Attachment

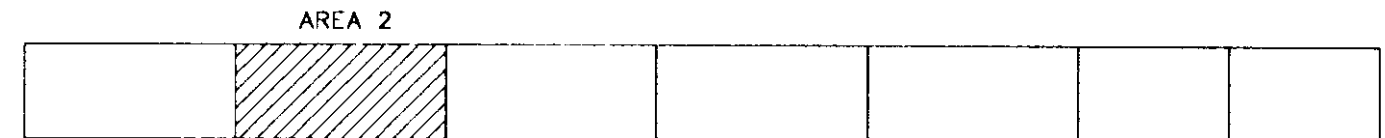
cc: David Gordon - RS&H, Inc.



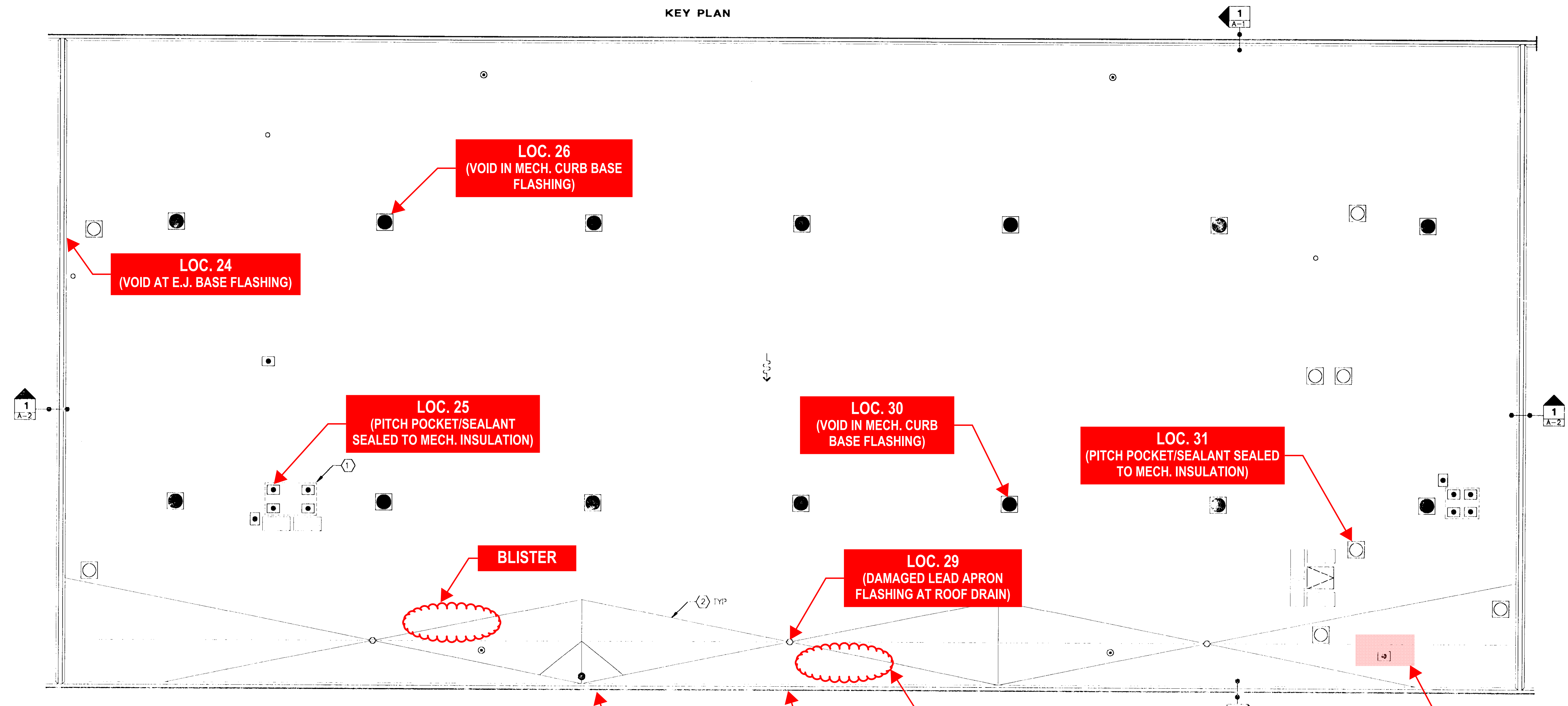
GENERAL NOTE:
 -RECORD DRAWINGS DO NOT NECESSARILY REFLECT ACCURATE DIMENSIONS, LAYOUTS, DETAILS OR OTHER EXISTING CONDITIONS THAT MAY IMPACT THE WORK. IT IS INCUMBENT UPON THE CONTRACTOR TO FIELD VERIFY ALL PROJECT WIDE CONDITIONS PRIOR TO BIDDING THE PROJECT. ORDERING MATERIALS OR FABRICATION OF ANY KIND PRIOR TO COMMENCEMENT OF WORK.

GENERAL NOTE:
 -APPROXIMATE LOCATIONS FOR PHOTOGRAPHS OF EXISTING ROOFING CONDITIONS.

BE ADVISED: ROOF PLAN DRAWING ORIGINATED FROM GREINER INC. (ENGINEER / ARCHITECT) AIR CARGO BUILDING ROOF REPLACEMENT DATED OCTOBER 19, 1994



KEY PLAN



1 ENLARGED ROOF PLAN - AREA 2
 SCALE 1/8"=1'

GENERAL NOTE:
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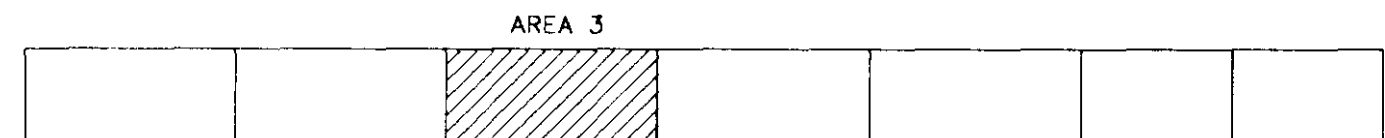
GENERAL NOTE:
 -APPROXIMATE LOCATIONS FOR PHOTOGRAPHS OF EXISTING ROOFING CONDITIONS.

BE ADVISED: ROOF PLAN DRAWING ORIGINATED FROM GREINER INC. (ENGINEER / ARCHITECT) AIR CARGO BUILDING ROOF REPLACEMENT DATED OCTOBER 19, 1994

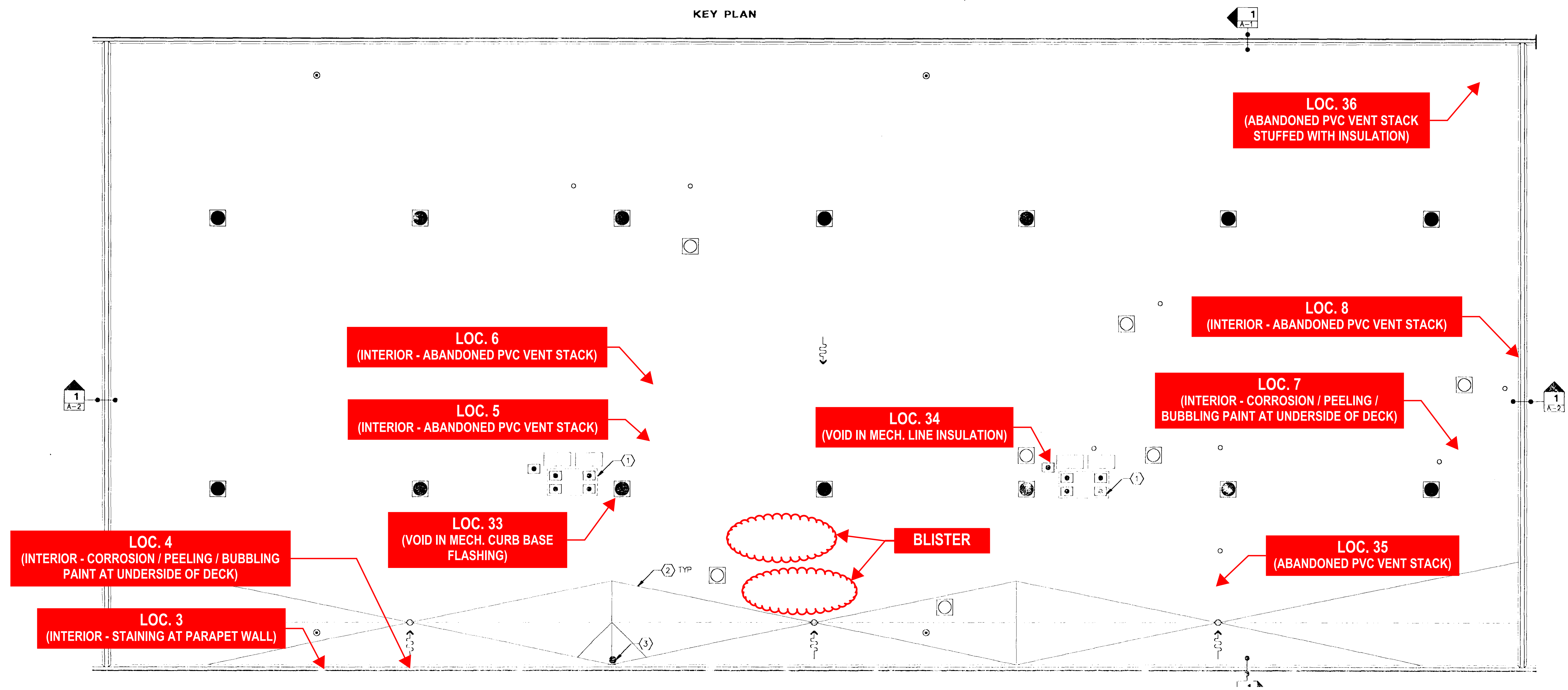
CMC PROJ. NO:	21-04038
DRAWN BY:	—
CHKD BY:	—
DATE:	06/04/21
SCALE:	AS NOTED

TITLE:
 ROOF PLAN

SHEET
R002



KEY PLAN

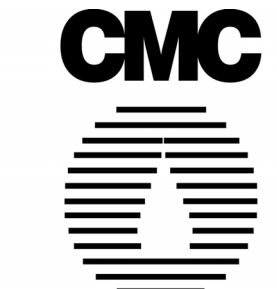


1 ENLARGED ROOF PLAN - AREA 3
 SCALE 1/8"=1'

GENERAL NOTE:
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GENERAL NOTE:
 -APPROXIMATE LOCATIONS FOR PHOTOGRAPHS OF EXISTING ROOFING CONDITIONS.

BE ADVISED: ROOF PLAN DRAWING ORIGINATED FROM GREINER INC. (ENGINEER / ARCHITECT) AIR CARGO BUILDING ROOF REPLACEMENT DATED OCTOBER 19, 1994



Construction Moisture Consulting, Inc.
Roofing/Waterproofing/Curtain Walls

TAMPA INTERNATIONAL AIRPORT
NORTH AIR CARGO BUILDING
Tampa, Florida

CMC PROJ. NO: 21-04038

DRAWN BY: --

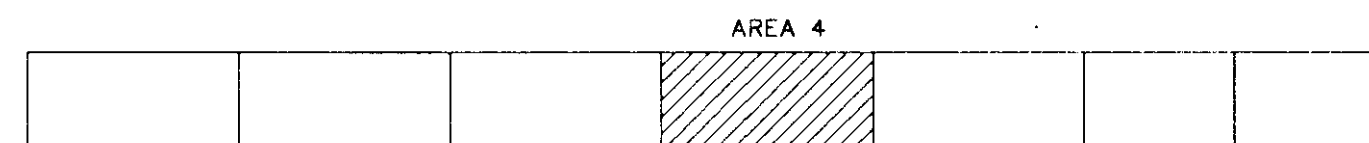
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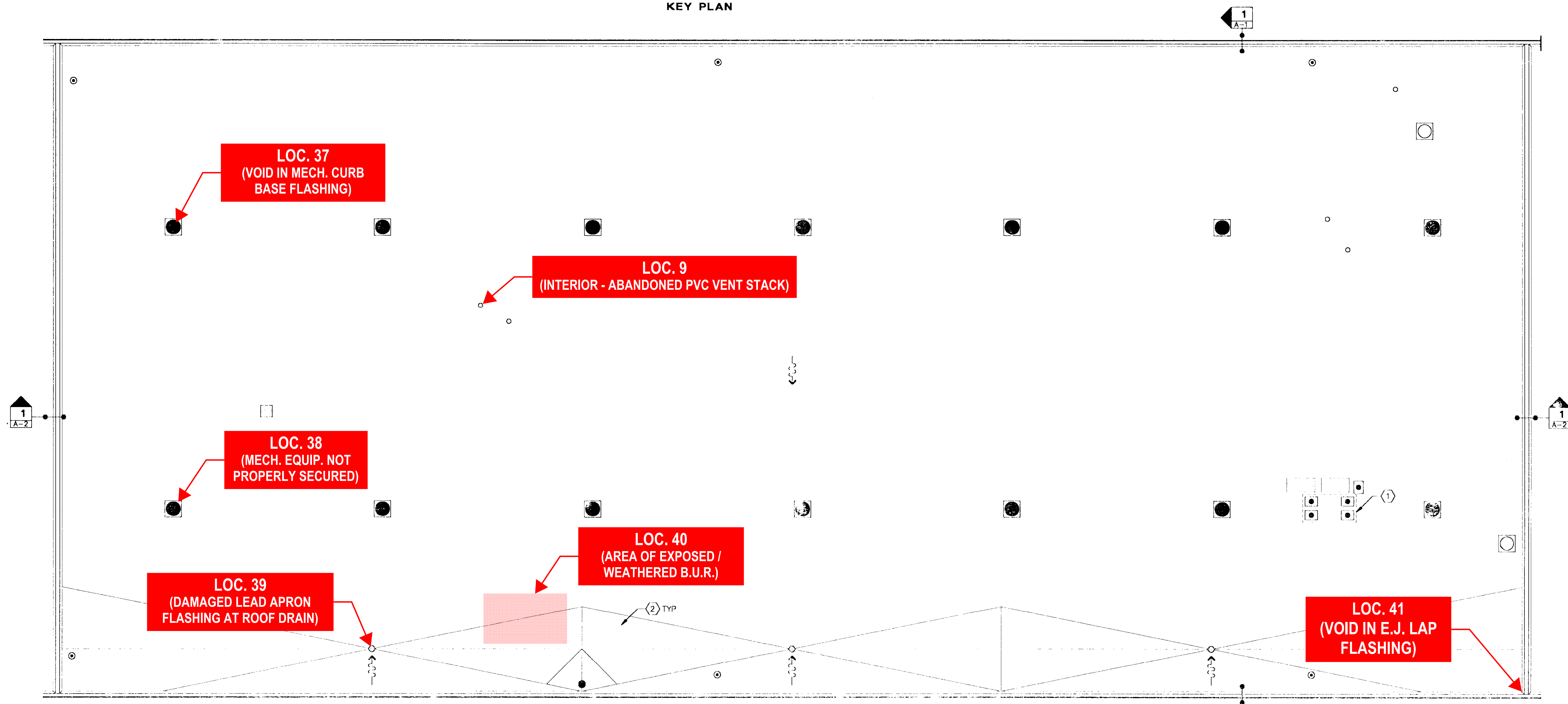
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TITLE:
ROOF PLAN

SHEET
R004



KEY PLAN



1 ENLARGED ROOF PLAN - AREA 4
SCALE 1/8"=1'

GENERAL NOTE:
-RECORD DRAWINGS DO NOT NECESSARILY REFLECT ACCURATE DIMENSIONS, LAYOUTS, DETAILS OR OTHER EXISTING CONDITIONS THAT MAY IMPACT THE WORK. IT IS INCUMBENT UPON THE CONTRACTOR TO FIELD VERIFY ALL PROJECT WIDE CONDITIONS PRIOR TO BIDDING THE PROJECT. ORDERING MATERIALS OR FABRICATION OF ANY KIND PRIOR TO COMMENCMENT OF WORK.

GENERAL NOTE:
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BE ADVISED: ROOF PLAN DRAWING ORIGINATED FROM GREINER INC. (ENGINEER / ARCHITECT) AIR CARGO BUILDING ROOF REPLACEMENT DATED OCTOBER 19, 1994



Construction Moisture Consulting, Inc.
Roofing/Waterproofing/Curtain Walls

TAMPA INTERNATIONAL AIRPORT
NORTH AIR CARGO BUILDING
Tampa, Florida

CMC PROJ. NO: 21-04038

DRAWN BY: --

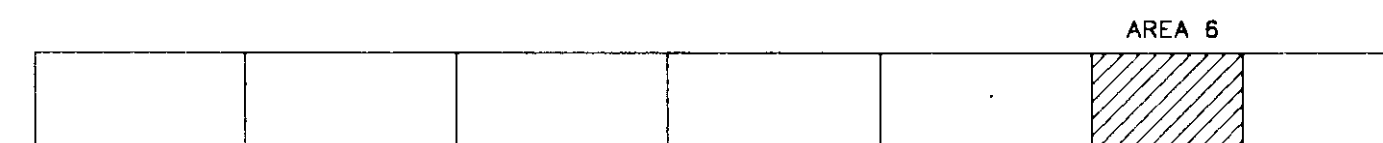
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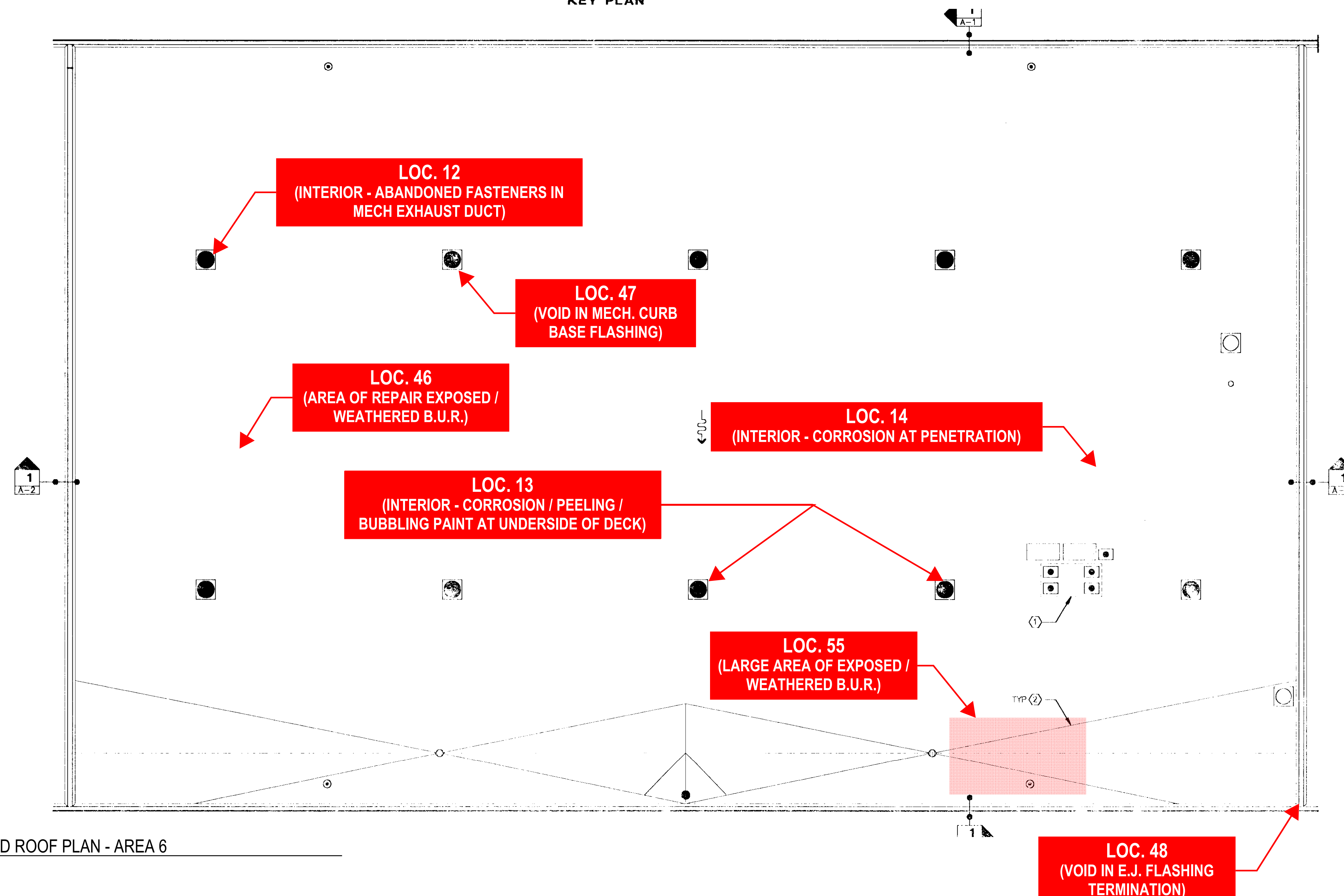
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TITLE:
ROOF PLAN

SHEET
R006



KEY PLAN

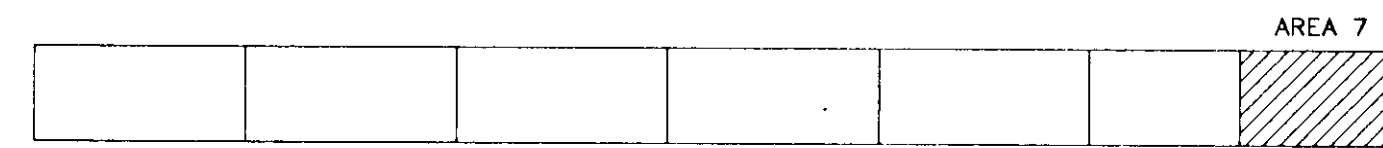


1 ENLARGED ROOF PLAN - AREA 6
SCALE 1/8"=1'

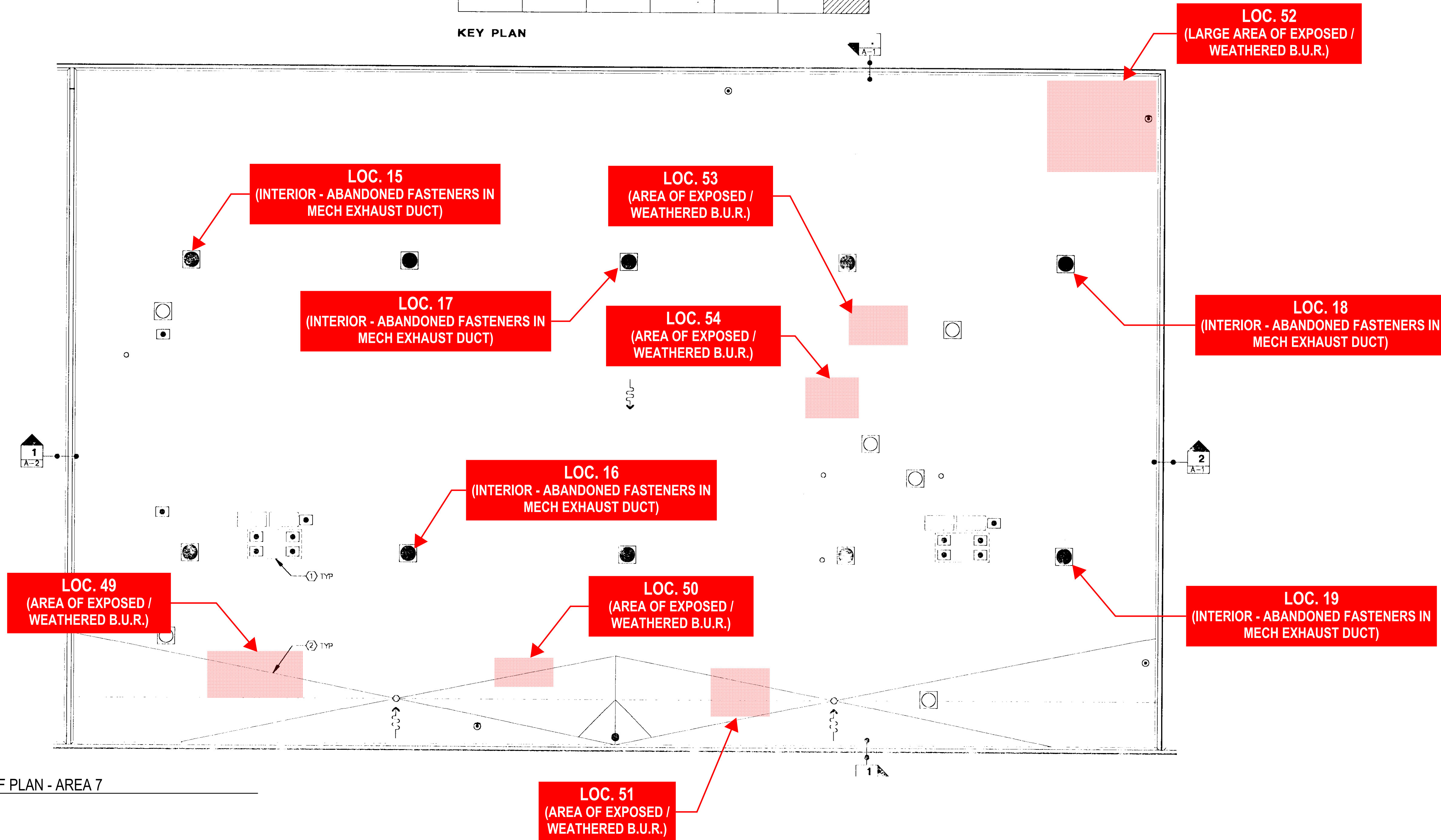
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GENERAL NOTE:
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BE ADVISED: ROOF PLAN DRAWING ORIGINATED FROM GREINER INC. (ENGINEER / ARCHITECT) AIR CARGO BUILDING ROOF REPLACEMENT DATED OCTOBER 19, 1994



KEY PLAN



1 ENLARGED ROOF PLAN - AREA 7
SCALE 1/8"=1'

GENERAL NOTE:
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GENERAL NOTE:
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BE ADVISED: ROOF PLAN DRAWING ORIGINATED FROM GREINER INC. (ENGINEER / ARCHITECT) AIR CARGO BUILDING ROOF REPLACEMENT DATED OCTOBER 19, 1994



TAMPA INTERNATIONAL AIRPORT
NORTH AIR CARGO BUILDING
Tampa, Florida

CMC PROJ. NO. 21-04038
DRAWN BY: —
CHKD BY: —
DATE: 06/04/21
SCALE: AS NOTED
TITLE: ROOF PLAN
SHEET R007

NORTH AIR CARGO ROOF REHABILITATION

APPENDIX C: PHOTOGRAPHS

HCAA PROJECT NO. 6530 18

Photo 1 – Typical roof configuration.

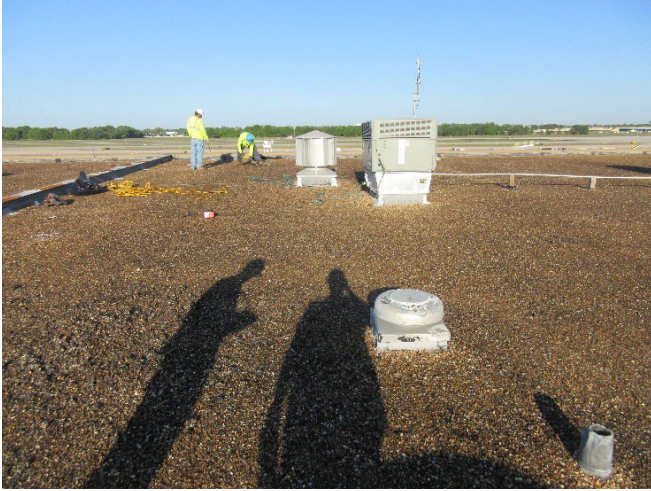


Photo 2 – Typical roof configuration.



Photo 3 – Typical RTU configuration.



Photo 4 – Typical plumbing vent.



Photo 5 – Typical exhaust fan.



Photo 6 – Typical gravity fan.



Photo 7 – Typical expansion joint.



Photo 8 – Typical roof drain.



Photo 9 – Typical overflow drain.



Photo 10 – View of antenna reset at roof area D.



Photo 11 – View typical roof deck underside conditions.

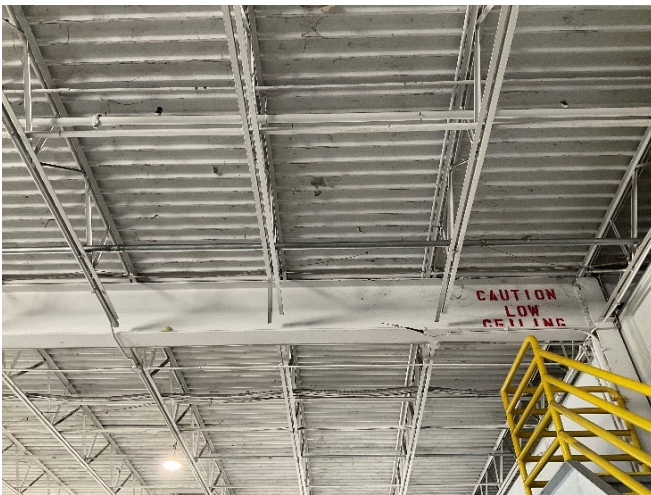
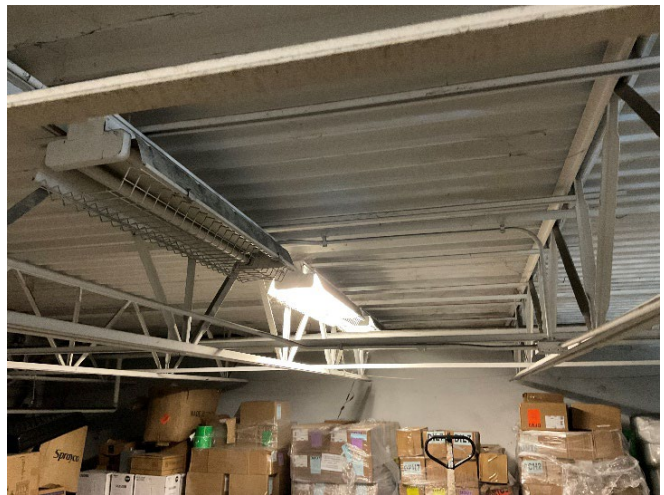


Photo 12 – View typical roof deck underside conditions.



Tampa International Airport

CONSTRUCTION PLANS FOR **NORTH AIR CARGO ROOF REHABILITATION**

CONFORMED
DOCUMENTS

H.C.A.A. PROJECT No. 6530 18



BID DOCUMENTS

HILLSBOROUGH COUNTY AVIATION AUTHORITY

BOARD MEMBERS

GARY W. HARROD - CHAIRMAN
ROBERT I. WATKINS - VICE CHAIRMAN
BRIG. GENERAL CHIP DIEHL - TREASURER
CITY OF TAMPA MAYOR JANE CASTOR -
SECRETARY
COMMISSIONER STACY WHITE -
ASST. SECRETARY/TREASURER

CHIEF EXECUTIVE OFFICER

JOSEPH W. LOPANO

WALKER PROJECT No. 15-002500.18

OCTOBER 3, 2022

CONSTRUCTION DATA

PRIME CONTRACTOR _____

WORK: COMMENCED _____ . COMPLETED _____
COST: BID \$ _____ FINAL \$ _____
PROJECT ENGINEER/INSPECTORS:

MAJOR SUBCONTRACTORS AND/OR SUPPLIERS

ALL CONSTRUCTION PERFORMED UNDER THIS CONTRACT WAS
COMPLETED IN SUBSTANTIAL CONFORMITY WITH THE DRAWINGS, NOTES
AND SPECIFICATIONS CONTAINED IN THESE PLANS. ALL CHANGES FROM
THE PLANS AS BID, HAVE BEEN NOTED TO THE BEST OF OUR
KNOWLEDGE. (CERTIFIED) _____
PROJECT ENGINEER DATE _____

HILLSBOROUGH COUNTY AVIATION AUTHORITY
TAMPA, FLORIDA

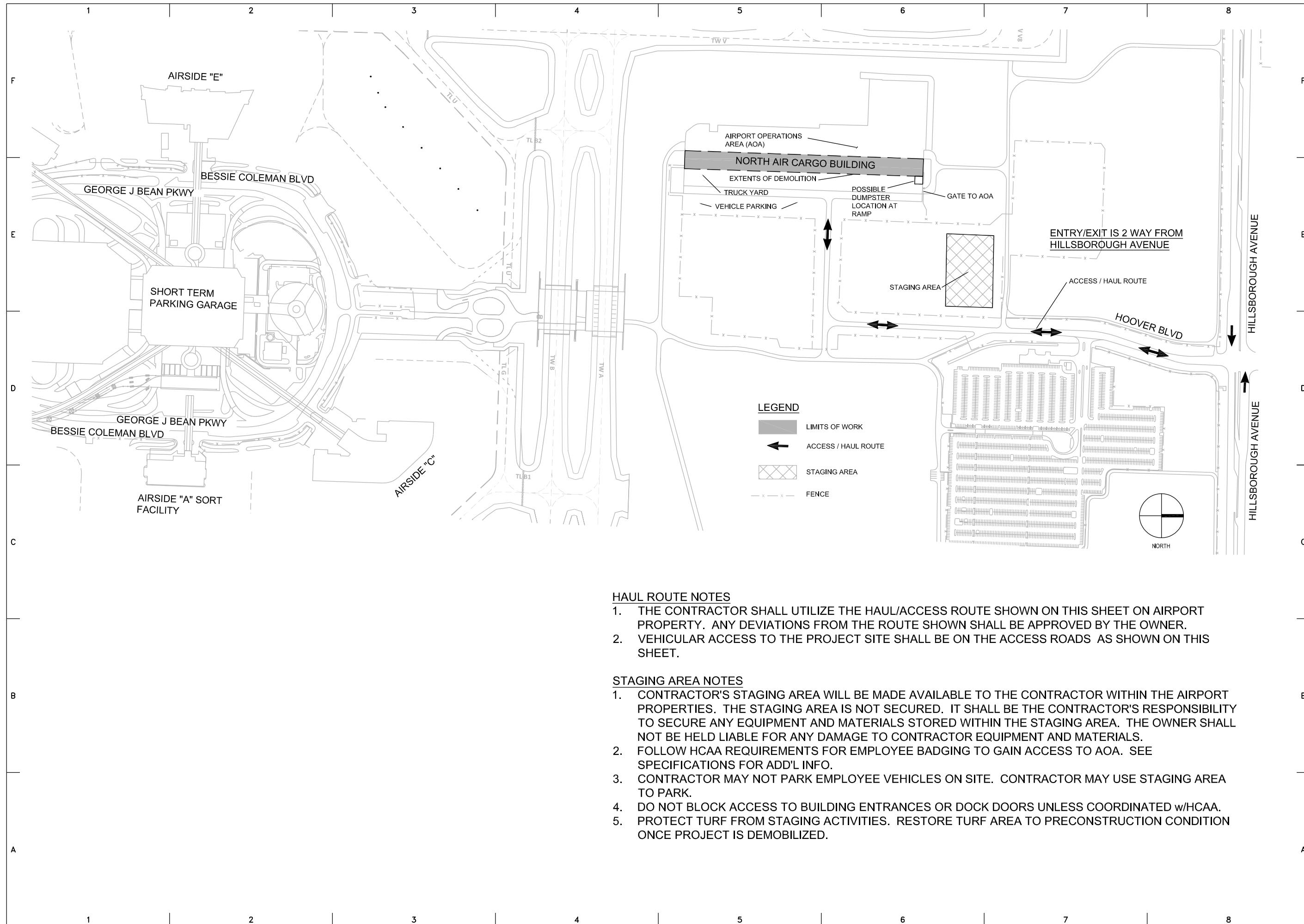
APPROVED _____ DATE _____



WALKER
CONSULTANTS
4904 Eisenhower Blvd
Suite 150
Tampa, FL 33634
813.888.5800 Ph
BE-0003840
www.walkerconsultants.com

SUBMITTED _____ DATE _____

P.E. No. _____



LEGEND

- LIMITS OF WORK
- ACCESS / HAUL ROUTE
- STAGING AREA
- FENCE

HAUL ROUTE NOTES

1. THE CONTRACTOR SHALL UTILIZE THE HAUL/ACCESS ROUTE SHOWN ON THIS SHEET ON AIRPORT PROPERTY. ANY DEVIATIONS FROM THE ROUTE SHOWN SHALL BE APPROVED BY THE OWNER.
2. VEHICULAR ACCESS TO THE PROJECT SITE SHALL BE ON THE ACCESS ROADS AS SHOWN ON THIS SHEET.

STAGING AREA NOTES

1. CONTRACTOR'S STAGING AREA WILL BE MADE AVAILABLE TO THE CONTRACTOR WITHIN THE AIRPORT PROPERTIES. THE STAGING AREA IS NOT SECURED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SECURE ANY EQUIPMENT AND MATERIALS STORED WITHIN THE STAGING AREA. THE OWNER SHALL NOT BE HELD LIABLE FOR ANY DAMAGE TO CONTRACTOR EQUIPMENT AND MATERIALS.
2. FOLLOW HCAA REQUIREMENTS FOR EMPLOYEE BADGING TO GAIN ACCESS TO AOA. SEE SPECIFICATIONS FOR ADD'L INFO.
3. CONTRACTOR MAY NOT PARK EMPLOYEE VEHICLES ON SITE. CONTRACTOR MAY USE STAGING AREA TO PARK.
4. DO NOT BLOCK ACCESS TO BUILDING ENTRANCES OR DOCK DOORS UNLESS COORDINATED w/HCAA.
5. PROTECT TURF FROM STAGING ACTIVITIES. RESTORE TURF AREA TO PRECONSTRUCTION CONDITION ONCE PROJECT IS DEMOBILIZED.

	AUTH.								
	REVISES								
	DATE								
WALKER CONSULTANTS 4904 Eisenhower Blvd Suite 150 Tampa, FL 33634 813.886.5800 Ph BE-0003840 www.walkerconsultants.com									
NORTH AIR CARGO ROOF REHABILITATION BID DOCUMENTS TAMPA INTERNATIONAL AIRPORT, TAMPA, FL									
PROJECT NAME									
F.A.A. NO. _____ N/A									
HCAA NO. _____ 6530 18									
JOB NO. _____ 15-002500.18									
DESIGN _____ SMS									
DRAWN _____ MCB									
CHECKED _____ MPD									
FILE NAME _____									
SCALE: _____ N.T.S.									
DATE: _____ 10.03.2022									
SHEET TITLE									
HAULING PLAN & STAGING PLAN									
G-002									

Task Name	Duration	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
TOTAL DURATION	319 days	[Gantt bar from Jan to Dec]											
NOTICE TO PROCURE	0 days	[Gantt bar from Feb to Feb]											
PROCUREMENT	120 days	[Gantt bar from Feb to May]											
CONSTRUCTION DURATION	199 days	[Gantt bar from Jun to Dec]											
NOTICE TO PROCEED	0 days	[Gantt bar from Jun to Jun]											
MOBILIZATION	14 days	[Gantt bar from Jun to Jun]											
ROOF AREA A	31 days	[Gantt bar from Jun to Jul]											
ROOF AREA B	31 days	[Gantt bar from Jul to Aug]											
ROOF AREA C	31 days	[Gantt bar from Aug to Sep]											
ROOF AREA D	31 days	[Gantt bar from Sep to Oct]											
ROOF AREA E	31 days	[Gantt bar from Oct to Nov]											
ROOF AREA F	15 days	[Gantt bar from Nov to Dec]											
ROOF AREA G	15 days	[Gantt bar from Dec to Dec]											
SHEET METAL WORK	30 days	[Gantt bar from Nov to Dec]											
SUBSTANTIAL COMPLETION	0 days	[Gantt bar from Dec to Dec]											

PROCUREMENT:

1. PROCUREMENT PERIOD IS SET TO ACCOUNT FOR THE LEAD TIME REQUIRED FOR THE VARIOUS MATERIALS TO BE USED THROUGHOUT THE PROJECT. SUBMITTALS SHALL BE SUBMITTED AND APPROVED PRIOR TO ORDERING OF MATERIALS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION ON PROCUREMENT.
2. PROCUREMENT TIME MAY BE MORE OF LESS THAN DURATION SET IN THE SCHEDULE. NOTICE TO PROCEED WILL BE ISSUED BASED ON ACTUAL PROCUREMENT TIME NEEDED.
3. PRECONSTRUCTION PLANNING ACTIVITIES SHOULD BE COMPLETED DURING PROCUREMENT DURATION SUCH AS SAFETY PLANS, BADGING AND OTHER ACTIVITIES DEFINED IN DIVISION 01 SPECIFICATIONS.

MOBILIZATION:

1. MOBILIZATION PERIOD IS SET TO ALLOW ALL SUBMITTAL AND SAMPLE APPROVALS, SETUP OF CONSTRUCTION STAGING AREAS AND TEMPORARY FACILITIES.

ROOF AREAS

1. COORDINATE ALL WORK WITH HCAA.
2. THESE LINE ITEMS INCLUDE, BUT ARE NOT LIMITED TO REMOVAL OF EXISTING ROOFING MATERIAL AND REPLACEMENT.

SHEET METAL WORK

1. COORDINATE ALL WORK WITH HCAA.
2. THIS LINE ITEM INCLUDES, BUT IS NOT LIMITED TO ROOF EDGE METAL, ETC.

SCHEMATIC SCHEDULE NOTES:

1. CONTRACTOR TO PROVIDE A DETAILED SCHEDULE AND PHASING PLAN TO OWNER FOR APPROVAL, IN ACCORDANCE WITH SECTION 01315 SCHEDULES, PHASING.

DATE	REVISIONS	BY	AUTH.
		MCB	MPD

WALKER CONSULTANTS
 4004 Eisenhower Blvd
 Suite 150
 Tampa, FL 33634
 813.889.5800 Ph
 BE-0003840
 www.walkerconsultants.com



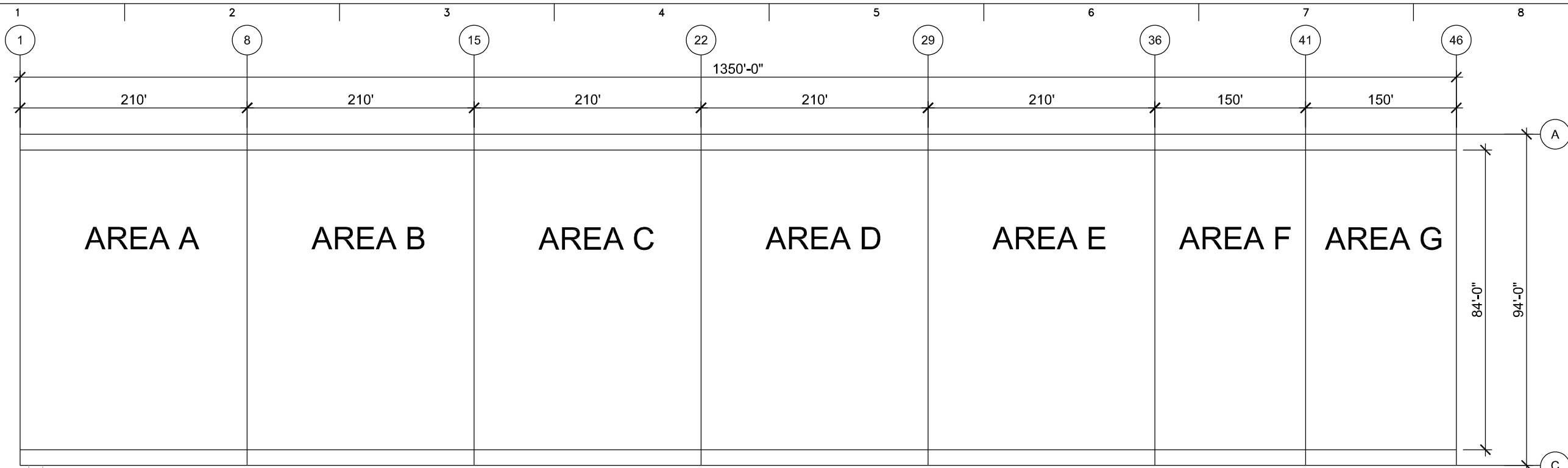
PROJECT NAME
 NORTH AIR CARGO
 ROOF REHABILITATION
 BID DOCUMENTS
 TAMPA INTERNATIONAL AIRPORT, TAMPA, FL

F.A.A. NO. _____ N/A
 HCAA NO. _____ 6530 18
 JOB NO. _____ 15-002500.18
 DESIGN _____ SMS
 DRAWN _____ MCB
 CHECKED _____ MPD
 FILE NAME _____
 SCALE: _____ N.T.S.
 DATE: _____ 10.03.2022

SHEET TITLE
 SCHEMATIC
 PROJECT
 SCHEDULE

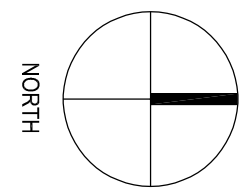
G-005

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METAL
CANOPY
N.I.C.

NORTH AIR CARGO BUILDING KEY PLAN

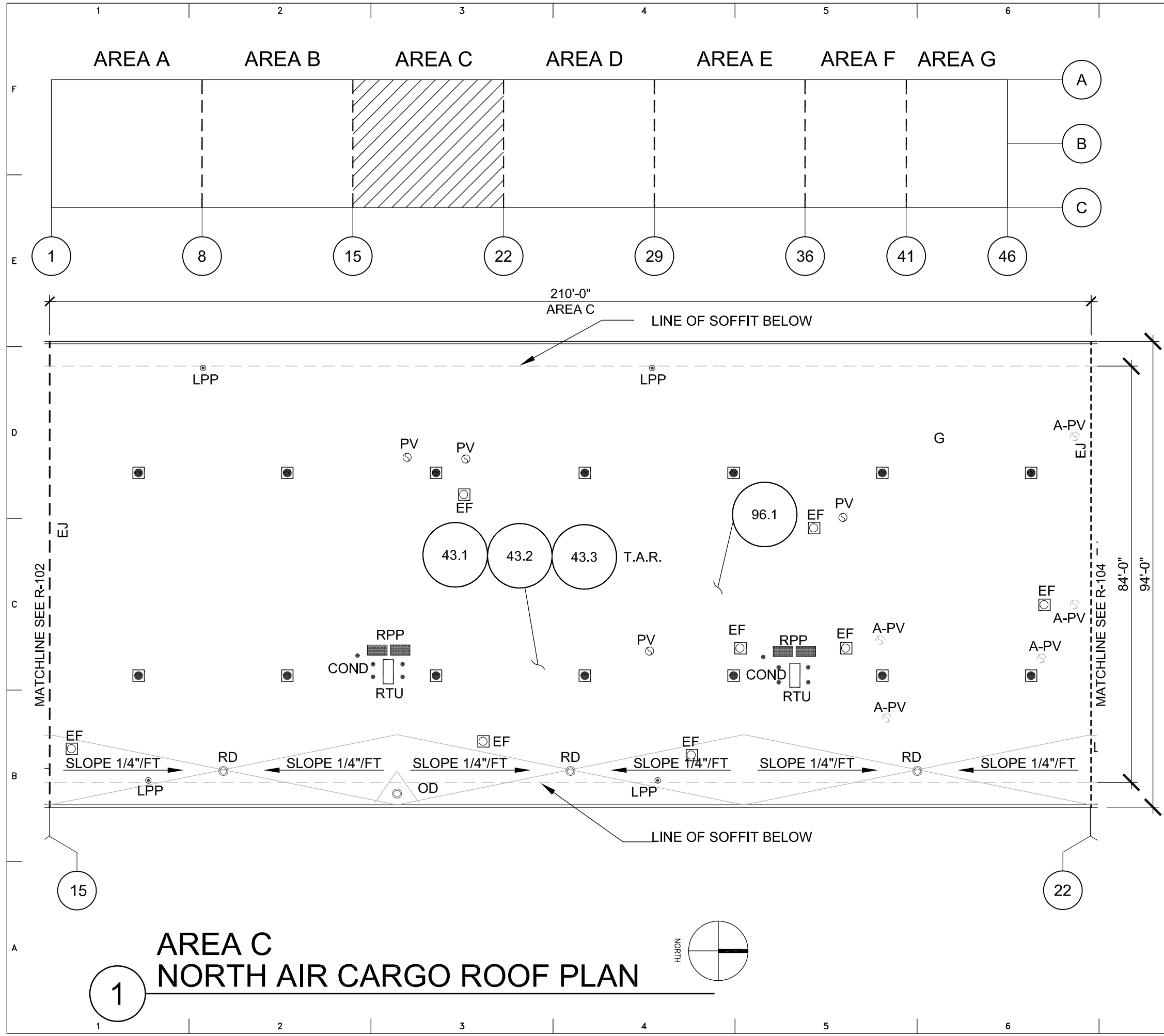


WORK ITEM SCHEDULE	
WORK ITEM	DESCRIPTION
1.0 GENERAL REQUIREMENTS	
1.1	Project Mobilization/Demobilization and Phasing
43.0 METAL DECKING	
43.1	Clean and paint steel roof decking
43.2	Overlay pitted steel roof decking
43.3	Removal and replacement of steel roof decking
43.4	Additional fasteners in steel roof decking
96.0 ROOFING AND COPING	
96.1	Roofing removal and replacement with single-ply roof
96.2	Replacement wood blocking

BY	AUTH.
REVISIONS	
DATE	
<p>WALKER CONSULTANTS 4009 Eisenhower Blvd Suite 150 Tampa, FL 33634 813.888.5800 Ph BE-0003840 www.walkerconsultants.com</p>	
<p>Tampa International Airport</p>	
<p>PROJECT NAME NORTH AIR CARGO ROOF REHABILITATION BID DOCUMENTS TAMPA INTERNATIONAL AIRPORT, TAMPA, FL</p>	
<p>F.A.A. NO. _____ N/A HCAA NO. _____ 6530.1B JOB NO. _____ 15-002500.1B</p>	
<p>DESIGN _____ SMS DRAWN _____ MCB CHECKED _____ MPD FILE NAME _____ SCALE: _____ N.T.S. DATE: _____ 10.03.2022</p>	
<p>SHEET TITLE WORK ITEM SCHEDULE & KEY PLAN</p>	
<p>G-006</p>	

User: bowles, maureen Drawing Name: \\15-002500-18-HCAA-Air_Cargo_Roof_Rehabilitation\Acad\West\15-2500-18-K-U01.dwg
Plot Date: Oct 31, 2022 - 9:54am - 15-2500-18-R-001.dwg

Plot Date: Oct 31, 2022 - 9:58am - 15-2500-18-R-101.dwg





LEGEND

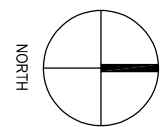
- ▽ ANT ANTENNA
- CONDUIT-SEE 10/R-506
- COND CONDUIT POST PENETRATION-SEE 8/R-504
- EF EXHAUST FAN-SEE 5/R-503
- - - EJ EXPANSION JOINT-SEE 4/R-504
- G GOOSENECK-SEE 12/R-507
- GRV GRAVITY ROOF VENT-SEE 5/R-503
- ⊙ LPP LIGHTNING PROTECTION POST-SEE 6/R-504
- ⊙ PV PLUMBING VENT-SEE 6/R-504
- ⊙ RD/OD ROOF DRAIN/OVERFLOW DRAIN-SEE 7/R-504
- ⊠ RH ROOF HATCH-SEE 11/R-506
- RPP ROOF PROTECTION PAD
- RTU ROOF TOP UNIT-SEE 13/R-507
- ▽ A-ANT ABANDONED ANTENNA
- A-CURB ABANDONED CURB
- A-G ABANDONED GOOSE NECK
- ⊙ A-PV ABANDONED PLUMBING VENT

NOTES:

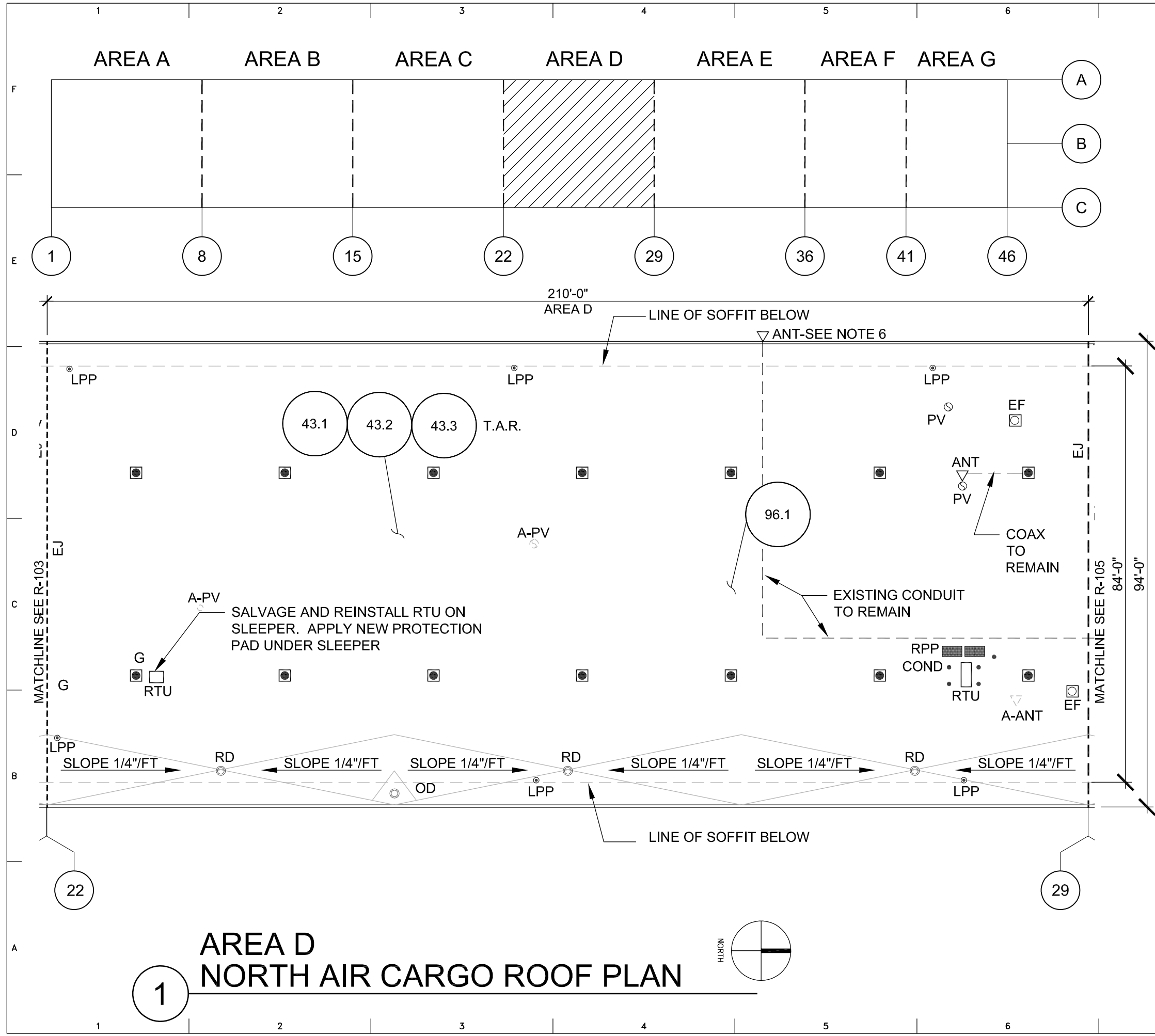
1. INSTALL CRICKETS AROUND ROOF TOP UNITS (RTU) AS NECESSARY TO PROVIDE POSITIVE DRAINAGE.
2. REMOVE & DISPOSE OF ABANDONED EQUIPMENT IDENTIFIED ON THE DRAWINGS. CAP STUB AT THE ROOF DECK. COVER THE STUB w/INSULATION AND ROOFING MEMBRANE. STORE REMOVED EQUIPMENT ON SITE UNTIL THE END OF THE PROJECT.
3. THE ROOF IS STRUCTURALLY SLOPED 1/8" PER FOOT. INSTALL TAPERED INSULATION TO MEET THE 1/4" PER FOOT MIN.
4. INSTALL NEW WALKWAY PAD PER ROOFING MFR'S STANDARD WALK PADS OR MFR'S RECOMMENDATIONS, TYP.
5. PROVIDE NEW SUPPORTS AT ALL CONDUITS TO REMAIN.
6. REMOVE AND TEMPORARILY REINSTALL LIGHTNING DETECTION ANTENNA DURING DEMOLITION OF THE SECTION OF COPING IS ATTACHED TO. REINSTALL ANTENNA IN SAME POSITION ONCE COPING WORK IS COMPLETED. COORDINATE AND USE ANTENNA SERVICE PROVIDER FOR THIS WORK.

BY		AUTH.	
REVISIONS		DATE	
 WALKER CONSULTANTS 4904 Eisenhower Blvd Suite 150 Tampa, FL 33634 813.883.5800 Ph 813.883.5800 Fx www.walkerconsultants.com			
 Tampa International Airport			
NORTH AIR CARGO ROOF REHABILITATION BID DOCUMENTS TAMPA INTERNATIONAL AIRPORT, TAMPA, FL			
PROJECT NAME			
F.A.A. NO. _____ N/A		HCAA NO. _____ 6530 18	
JOB NO. _____ 15-002500.18			
DESIGN _____ SMS		DRAWN _____ MCB	
CHECKED _____ MPD		FILE NAME _____	
SCALE: _____ N.T.S.			
DATE: _____ 10.03.2022			
SHEET TITLE			
NORTH AIR CARGO BUILDING ROOF AREA C			
R-103			

AREA C
NORTH AIR CARGO ROOF PLAN



Plot Date: Oct 31, 2022 - 9:58am - 15-2500-18-R-101.dwg



LEGEND

▽	ANT	ANTENNA
---	COND	CONDUIT-SEE 10/R-506
•	COND	CONDUIT POST PENETRATION-SEE 8/R-504
□	EF	EXHAUST FAN-SEE 5/R-503
- - -	EJ	EXPANSION JOINT-SEE 4/R-504
G	G	GOOSENECK-SEE 12/R-507
■	GRV	GRAVITY ROOF VENT-SEE 5/R-503
⊙	LPP	LIGHTNING PROTECTION POST-SEE 6/R-504
⊙	PV	PLUMBING VENT-SEE 6/R-504
⊙	RD/OD	ROOF DRAIN/OVERFLOW DRAIN-SEE 7/R-504
⊠	RH	ROOF HATCH-SEE 11/R-506
■	RPP	ROOF PROTECTION PAD
□	RTU	ROOF TOP UNIT-SEE 13/R-507
▽	A-ANT	ABANDONED ANTENNA
□	A-CURB	ABANDONED CURB
G	A-G	ABANDONED GOOSE NECK
⊙	A-PV	ABANDONED PLUMBING VENT

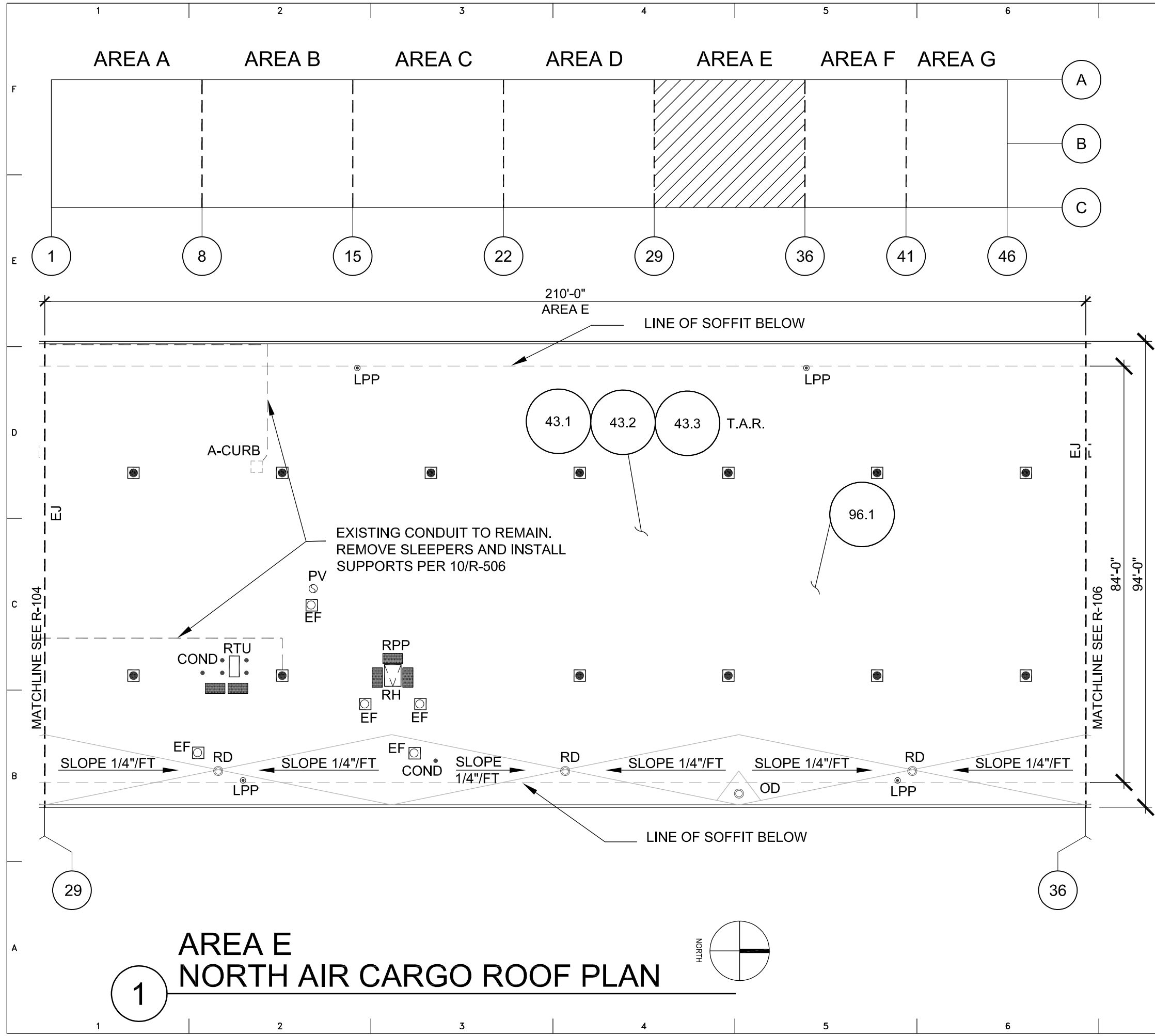
- NOTES:**
- INSTALL CRICKETS AROUND ROOF TOP UNITS (RTU) AS NECESSARY TO PROVIDE POSITIVE DRAINAGE.
 - REMOVE & DISPOSE OF ABANDONED EQUIPMENT IDENTIFIED ON THE DRAWINGS. CAP STUB AT THE ROOF DECK. COVER THE STUB w/INSULATION AND ROOFING MEMBRANE. STORE REMOVED EQUIPMENT ON SITE UNTIL THE END OF THE PROJECT.
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 - INSTALL NEW WALKWAY PAD PER ROOFING MFR'S STANDARD WALK PADS OR MFR'S RECOMMENDATIONS, TYP.
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 - REMOVE AND TEMPORARILY REINSTALL LIGHTNING DETECTION ANTENNA DURING DEMOLITION OF THE SECTION OF COPING IS ATTACHED TO. REINSTALL ANTENNA IN SAME POSITION ONCE COPING WORK IS COMPLETED. COORDINATE AND USE ANTENNA SERVICE PROVIDER FOR THIS WORK.

1

AREA D NORTH AIR CARGO ROOF PLAN

BY		AUTH.		REVISIONS		DATE																							
<p style="font-size: 8px; margin: 0;">4904 Eisenhower Blvd Tampa, FL 33634 813.883.5800 Ph www.walkerconsultants.com</p>																													
<p>NORTH AIR CARGO ROOF REHABILITATION</p> <p>BID DOCUMENTS TAMPA INTERNATIONAL AIRPORT, TAMPA, FL</p>																													
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F.A.A. NO.	N/A																												
HCAA NO.	6530 18																												
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DATE	10.03.2022																												
SHEET TITLE																													
NORTH AIR CARGO BUILDING ROOF AREA D																													
R-104																													

Plot Date: Oct 31, 2022 - 9:58am - 15-2500-18-R-101.dwg



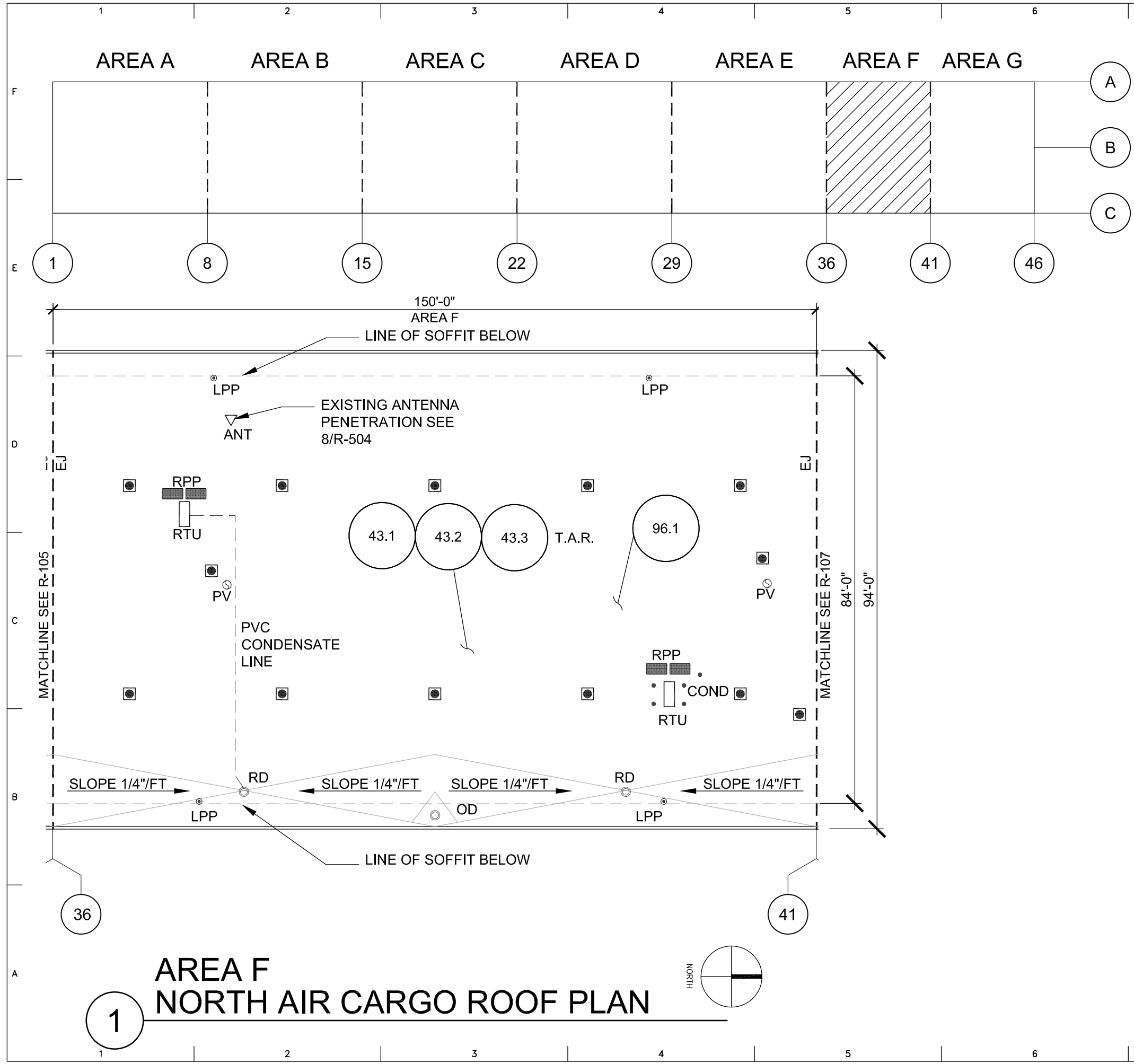
LEGEND

	ANT	ANTENNA
	CONDUIT-SEE 10/R-506	
	COND	CONDUIT POST PENETRATION-SEE 8/R-504
	EF	EXHAUST FAN-SEE 5/R-503
	EJ	EXPANSION JOINT-SEE 4/R-504
	G	GOOSENECK-SEE 12/R-507
	GRV	GRAVITY ROOF VENT-SEE 5/R-503
	LPP	LIGHTNING PROTECTION POST-SEE 6/R-504
	PV	PLUMBING VENT-SEE 6/R-504
	RD/OD	ROOF DRAIN/OVERFLOW DRAIN-SEE 7/R-504
	RH	ROOF HATCH-SEE 11/R-506
	RPP	ROOF PROTECTION PAD
	RTU	ROOF TOP UNIT-SEE 13/R-507
	A-ANT	ABANDONED ANTENNA
	A-CURB	ABANDONED CURB
	A-G	ABANDONED GOOSE NECK
	A-PV	ABANDONED PLUMBING VENT

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BY	AUTH.	
REVISIONS		
DATE		
 WALKER CONSULTANTS 4904 Eisenhower Blvd Suite 150 Tampa, FL 33634 813.286.5800 Ph www.walkerconsultants.com		
 Tampa International Airport		
NORTH AIR CARGO ROOF REHABILITATION BID DOCUMENTS TAMPA INTERNATIONAL AIRPORT, TAMPA, FL		
PROJECT NAME		
F.A.A. NO.	N/A	
HCAA NO.	6530 18	
JOB NO.	15-002500.18	
DESIGN	SMS	
DRAWN	MCB	
CHECKED	MPD	
FILE NAME		
SCALE:	N.T.S.	
DATE:	10.03.2022	
SHEET TITLE	NORTH AIR CARGO BUILDING ROOF AREA E	
R-105		

Plot Date: Oct 31, 2022 - 9:58am - 15-2500-18-R-101.dwg



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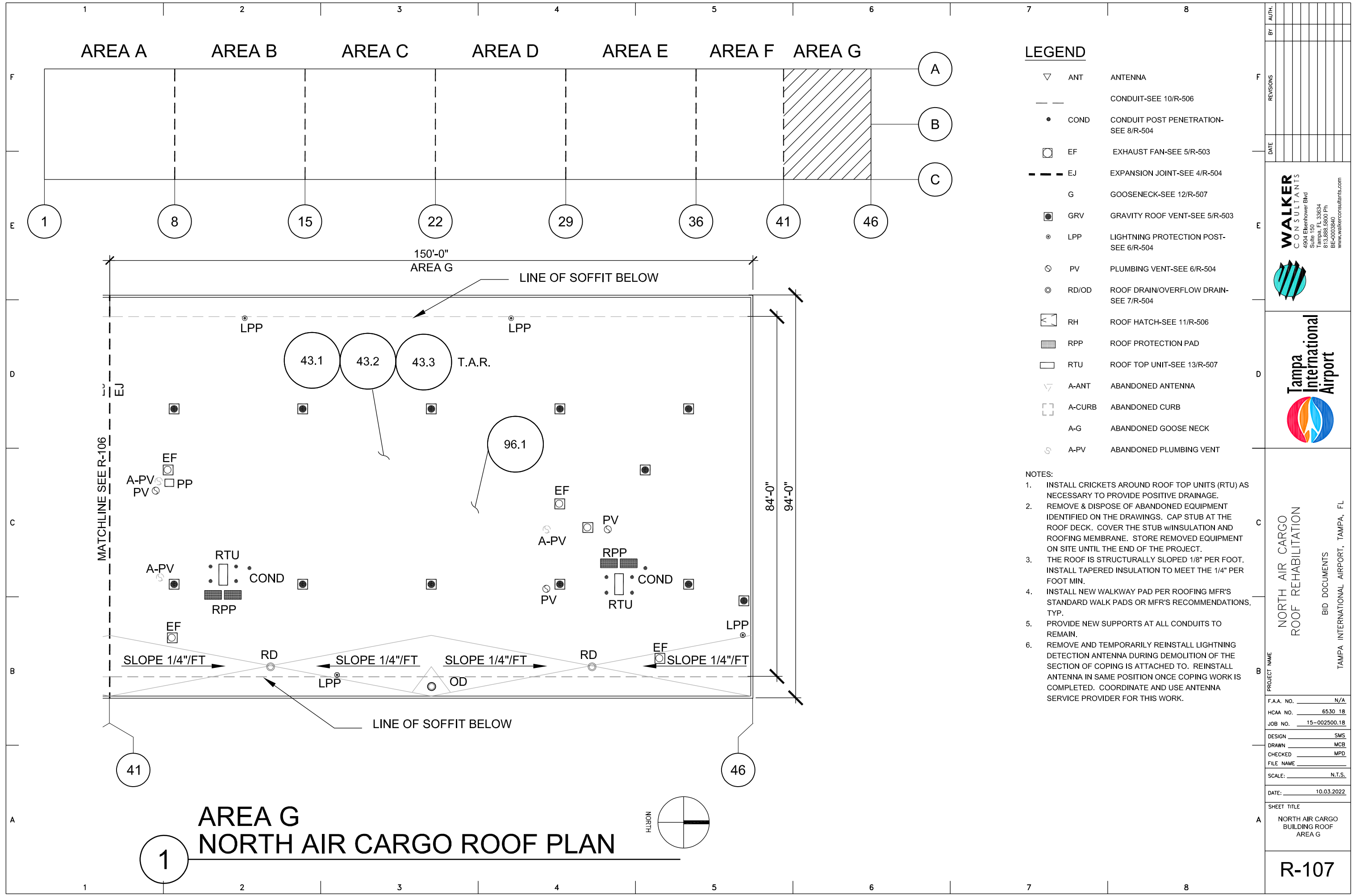
- ▽ ANT ANTENNA
- CONDUIT-SEE 10/R-506
- COND CONDUIT POST PENETRATION-SEE 8/R-504
- ☐ EF EXHAUST FAN-SEE 5/R-503
- - - EJ EXPANSION JOINT-SEE 4/R-504
- G GOOSENECK-SEE 12/R-507
- ☐ GRV GRAVITY ROOF VENT-SEE 5/R-503
- ⊙ LPP LIGHTNING PROTECTION POST-SEE 6/R-504
- ⊙ PV PLUMBING VENT-SEE 6/R-504
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BY		AUTH.	
REVISIONS		DATE	
DATE		WALKER CONSULTANTS 4904 Eisenhower Blvd Suite 150 Tampa, FL 33634 813-283-3500 Ph www.walkerconsultants.com	
PROJECT NAME	NORTH AIR CARGO ROOF REHABILITATION BID DOCUMENTS TAMPA INTERNATIONAL AIRPORT, TAMPA, FL		
F.A.A. NO.	N/A		
HCAA NO.	6530 18		
JOB NO.	15-002500.18		
DESIGN	SMS		
DRAWN	MCB		
CHECKED	MPD		
FILE NAME			
SCALE:	N.T.S.		
DATE:	10.03.2022		
SHEET TITLE	NORTH AIR CARGO BUILDING ROOF AREA F		
SHEET NO.	R-106		

Plot Date: Oct 31, 2022 - 9:58am - 15-2500-18-R-101.dwg

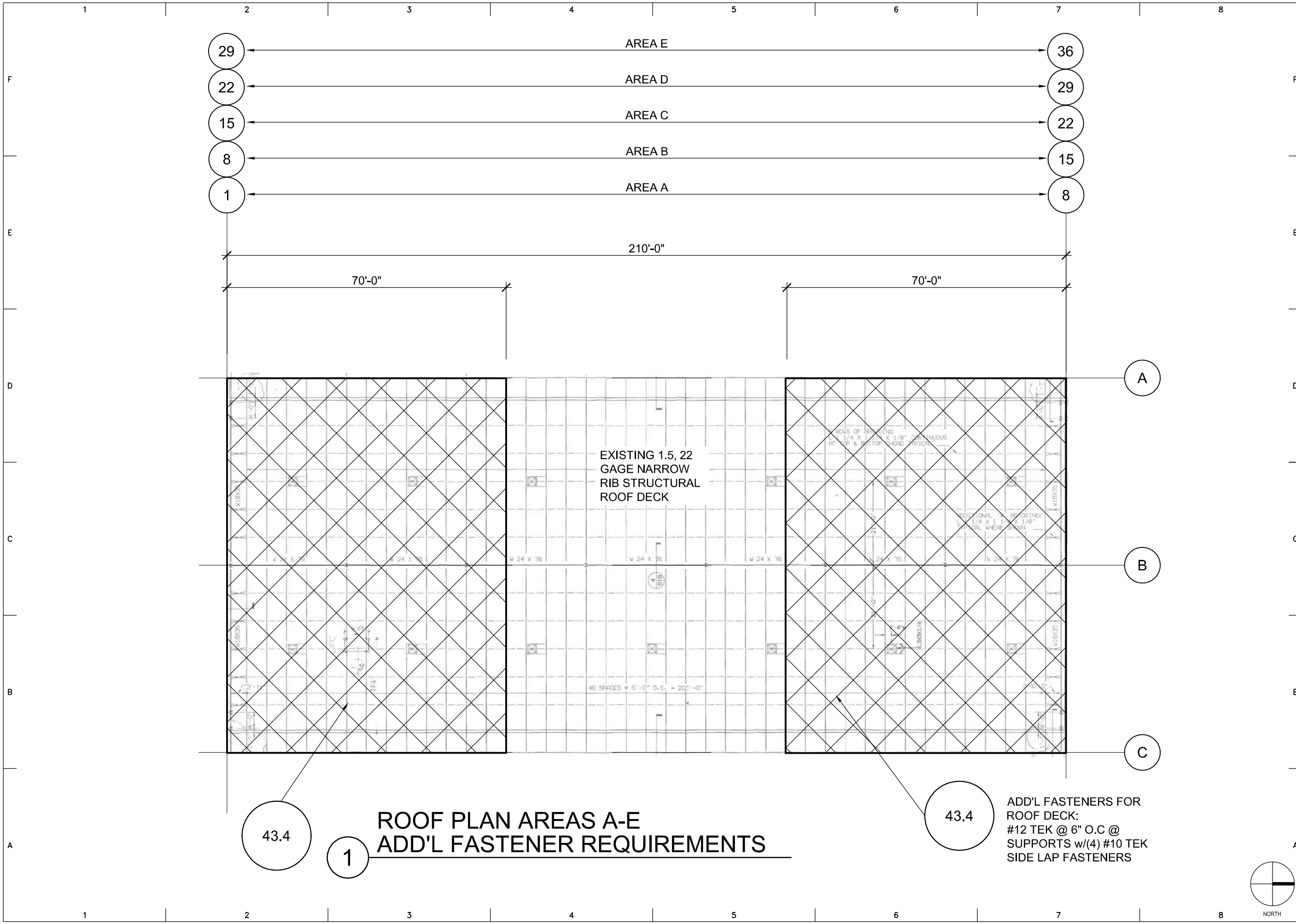


LEGEND

	ANT	ANTENNA
	CONDUIT-SEE 10/R-506	
	COND	CONDUIT POST PENETRATION-SEE 8/R-504
	EF	EXHAUST FAN-SEE 5/R-503
	EJ	EXPANSION JOINT-SEE 4/R-504
	G	GOOSENECK-SEE 12/R-507
	GRV	GRAVITY ROOF VENT-SEE 5/R-503
	LPP	LIGHTNING PROTECTION POST-SEE 6/R-504
	PV	PLUMBING VENT-SEE 6/R-504
	RD/OD	ROOF DRAIN/OVERFLOW DRAIN-SEE 7/R-504
	RH	ROOF HATCH-SEE 11/R-506
	RPP	ROOF PROTECTION PAD
	RTU	ROOF TOP UNIT-SEE 13/R-507
	A-ANT	ABANDONED ANTENNA
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BY	AUTH.	
REVISIONS		
DATE		
<p>WALKER CONSULTANTS 4904 Eisenhower Blvd Suite 150 Tampa, FL 33634 813.883.8800 Ph www.walkerconsultants.com</p>		
<p>Tampa International Airport</p>		
<p>PROJECT NAME NORTH AIR CARGO ROOF REHABILITATION BID DOCUMENTS TAMPA INTERNATIONAL AIRPORT, TAMPA, FL</p>		
F.A.A. NO.	N/A	
HCAA NO.	6530 18	
JOB NO.	15-002500.18	
DESIGN	SMS	
DRAWN	MCB	
CHECKED	MPD	
FILE NAME		
SCALE:	N.T.S.	
DATE:	10.03.2022	
SHEET TITLE		
NORTH AIR CARGO BUILDING ROOF AREA G		
R-107		



**ROOF PLAN AREAS A-E
ADD'L FASTENER REQUIREMENTS**

ADD'L FASTENERS FOR
ROOF DECK:
#12 TEK @ 6" O.C. @
SUPPORTS w/(4) #10 TEK
SIDE LAP FASTENERS

DATE	REVISIONS	BY	AUTH.

**WALKER
CONSULTANTS**
4904 Eisenhower Blvd
Suite 150
Tampa, FL 33634
813.886.5800 Ph
BE-0003840
www.walkerconsultants.com

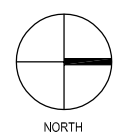


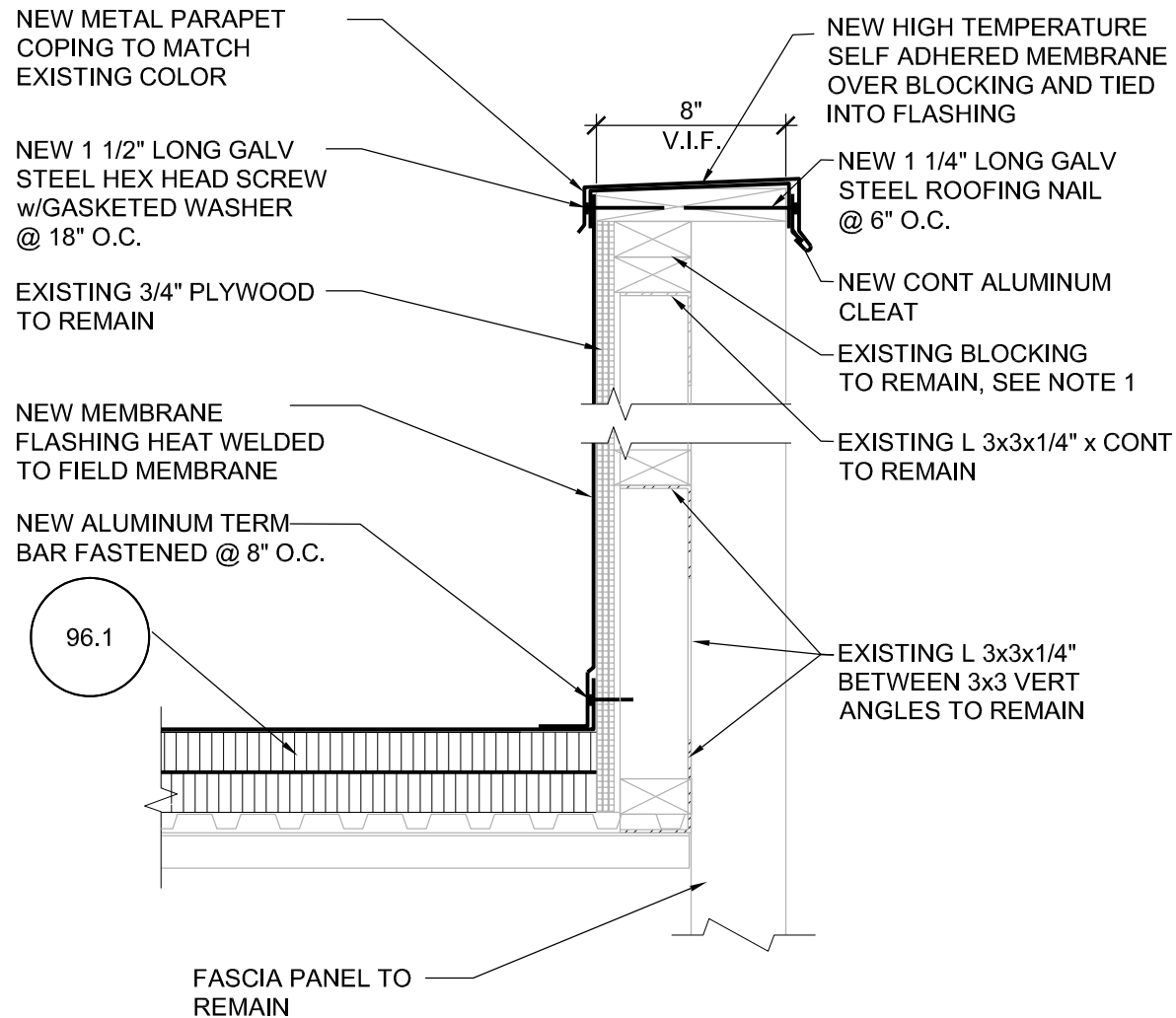
**NORTH AIR CARGO
ROOF REHABILITATION**
BID DOCUMENTS
TAMPA INTERNATIONAL AIRPORT, TAMPA, FL

PROJECT NAME	NORTH AIR CARGO ROOF REHABILITATION
F.A.A. NO.	N/A
HCAA NO.	6530 18
JOB NO.	15-002500.18
DESIGN	SMS
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FILE NAME	
SCALE	N.T.S.
DATE	10.03.2022

SHEET TITLE
ROOF PLAN
AREAS A-E
ADD'L
REQUIREMENTS

R-108



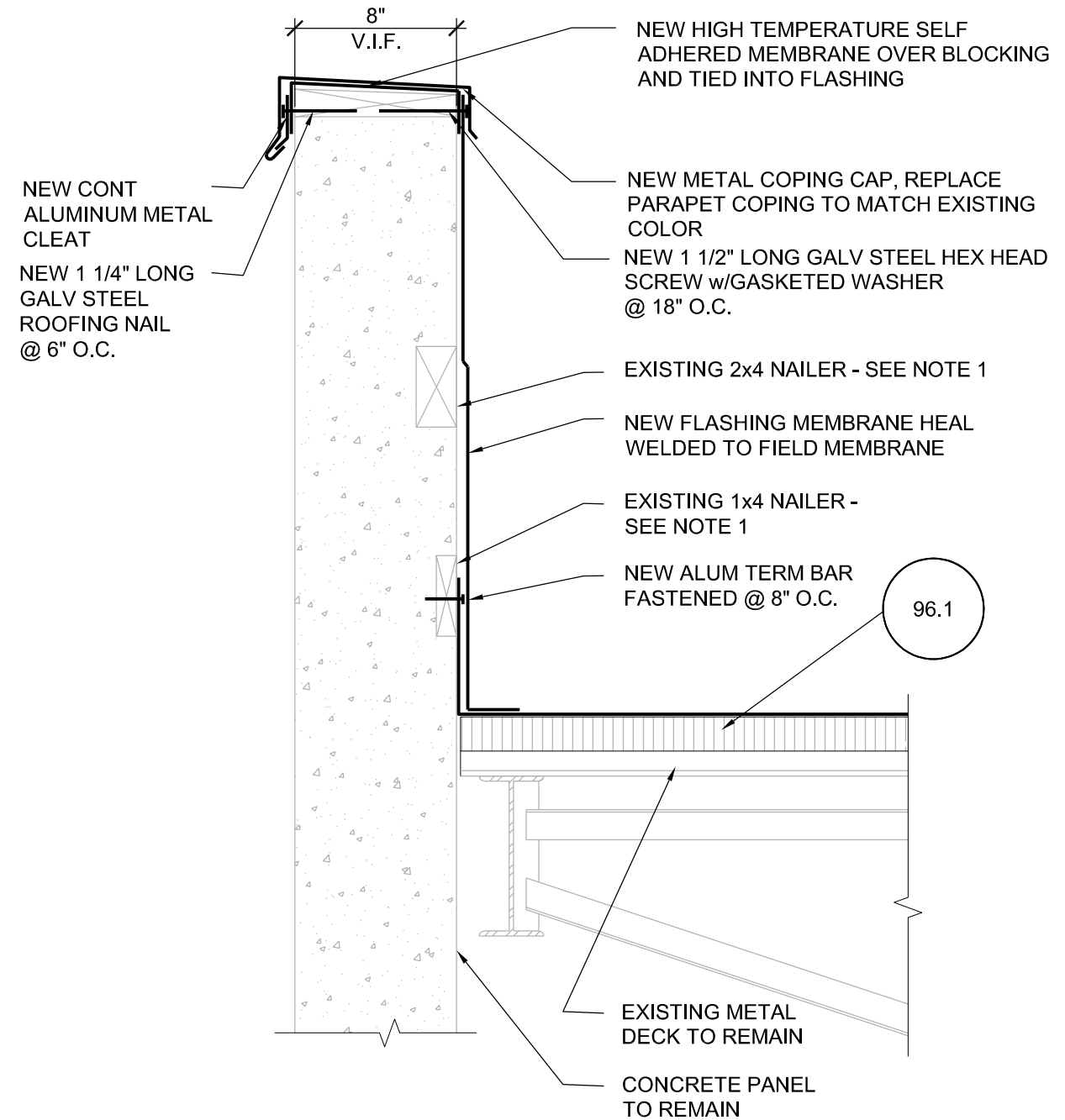


NOTE:

1. CONTRACTOR IS TO INSPECT EXISTING WOOD BLOCKING FOR SIGNS OF DETERIORATION OR ROT. IF DETERIORATION IS DISCOVERED NOTIFY THE OWNER PRIOR TO INSTALLATION OF NEW MATERIALS.
2. METAL PROFILE SHOWN FOR AESTHETIC INTENT ONLY. CONTRACTOR SHALL PROVIDE ANSI-SPRI ES-1 RATED EDGE METAL AND COPING ASSEMBLIES AT ALL LOCATIONS.

TYP PARAPET @ EAST & WEST ELEVATIONS

2



NOTE:

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TYP PARAPET @ NORTH & SOUTH ELEVATIONS

3

BY									
DATE									
REVISIONS									
<p>WALKER CONSULTANTS 4004 E. Bayshore Blvd Suite 150 Tampa, FL 33634 813.888.5800 Ph BE-0003840 www.walkerconsultants.com</p>									
<p>Tampa International Airport BID DOCUMENTS TAMPA INTERNATIONAL AIRPORT, TAMPA, FL</p>									
<p>PROJECT NAME: NORTH AIR CARGO ROOF REHABILITATION</p>									
<p>F.A.A. NO. N/A HCAA NO. 6530 18 JOB NO. 15-002500.18</p>									
<p>DESIGN: SMS DRAWN: MCB CHECKED: MPD FILE NAME: SCALE: N.T.S.</p>									
<p>DATE: 10.03.2022</p>									
<p>SHEET TITLE: REPAIR DETAILS W.I. 96.1</p>									
<p>R-502</p>									

Plot Date: Oct 31, 2022 - 10:01am - 15-2500-18-R-501.dwg

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C
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A

DATE	REVISIONS	BY	AUTH.

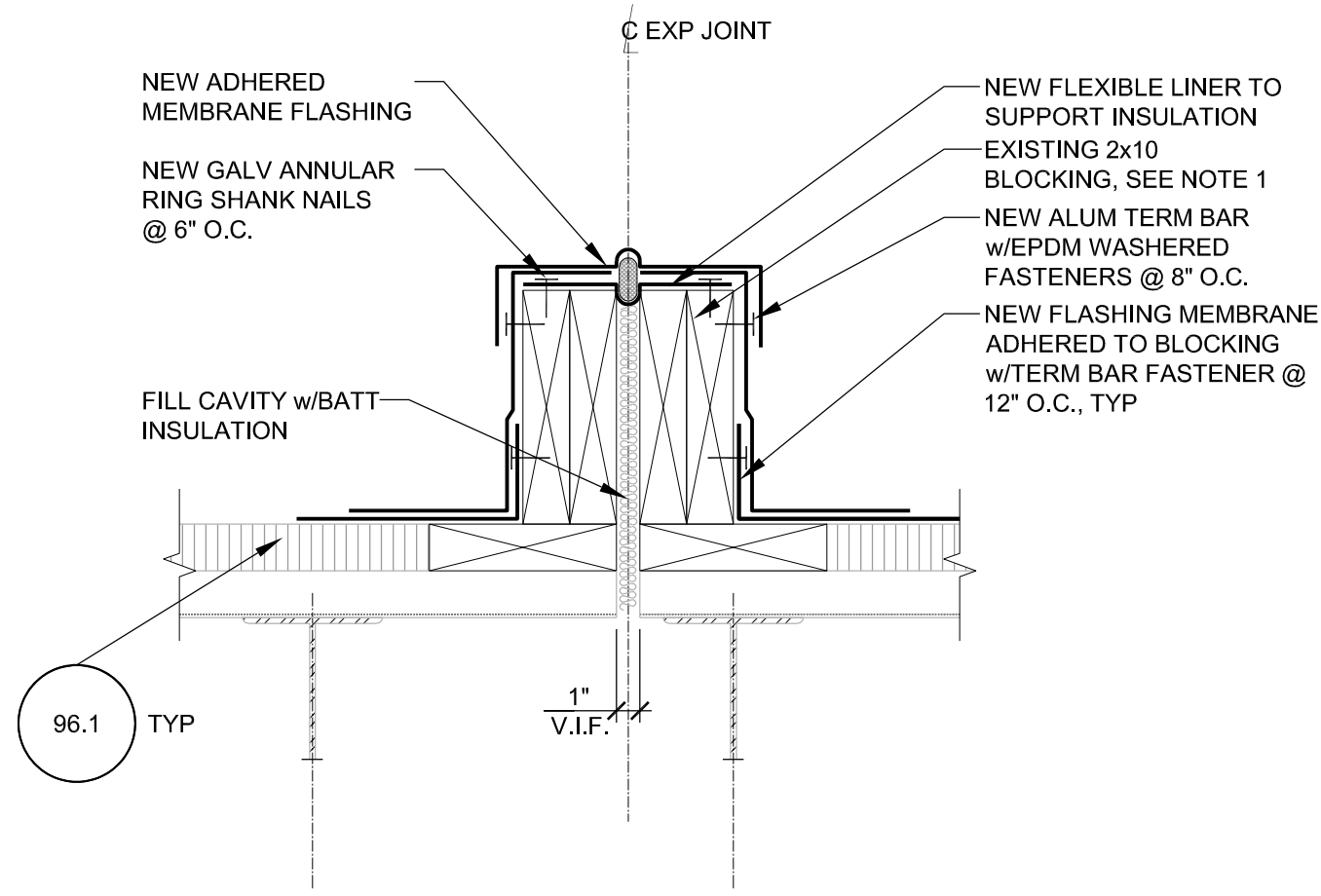
WALKER CONSULTANTS
4004 Eisenhower Blvd
Suite 150
Tampa, FL 33634
813.889.5800 Ph
BE-0003840
www.walkerconsultants.com



NORTH AIR CARGO ROOF REHABILITATION
TAMPA INTERNATIONAL AIRPORT, TAMPA, FL
BID DOCUMENTS

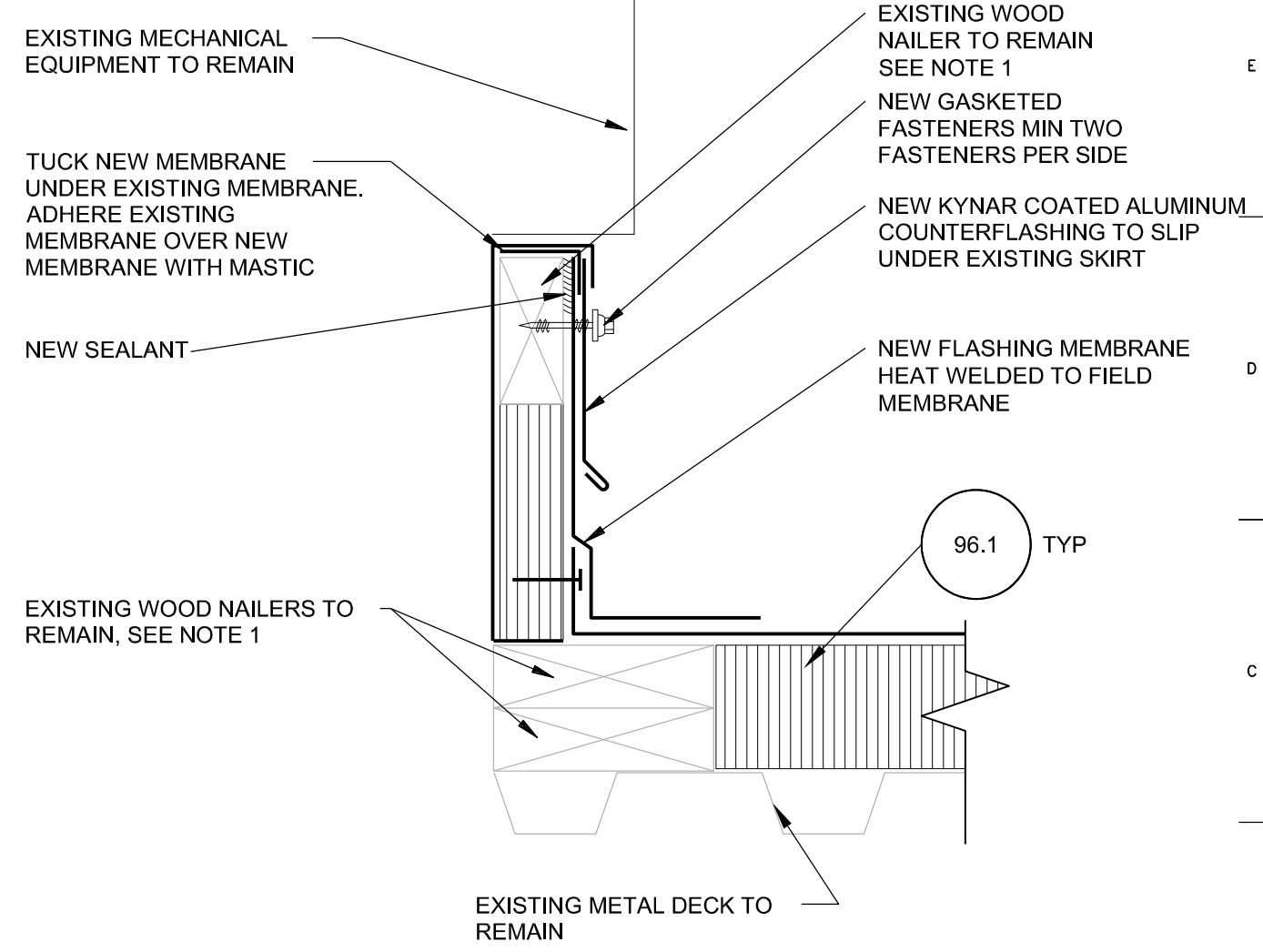
PROJECT NAME	NORTH AIR CARGO ROOF REHABILITATION
F.A.A. NO.	N/A
HCAA NO.	6530.18
JOB NO.	15-002500.18
DESIGN	SMS
DRAWN	MCB
CHECKED	MPD
FILE NAME	
SCALE:	N.T.S.
DATE:	10.03.2022
SHEET TITLE	REPAIR DETAILS W.I. 96.1

R-503



NOTE:
1. CONTRACTOR IS TO INSPECT EXISTING WOOD BLOCKING FOR SIGNS OF DETERIORATION OR ROT. IF DETERIORATION IS DISCOVERED NOTIFY THE OWNER PRIOR TO INSTALLATION OF NEW MATERIALS.

4 TYP EXPANSION JOINT @ ROOF

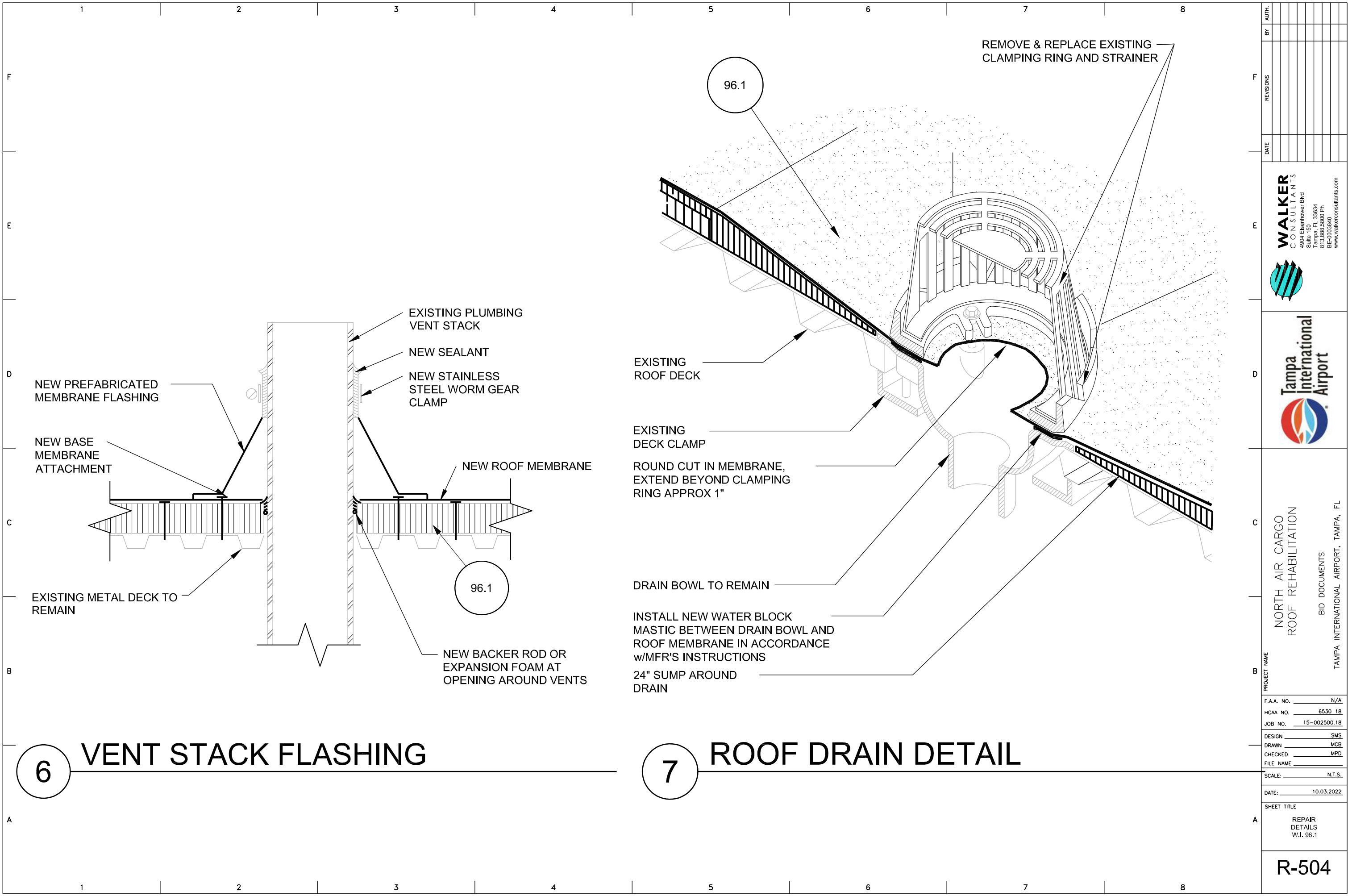


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5 MECHANICAL CURB

Plot Date: Oct 31, 2022 - 10:02am - 15-2500-18-R-501.dwg

1 2 3 4 5 6 7 8



6

VENT STACK FLASHING

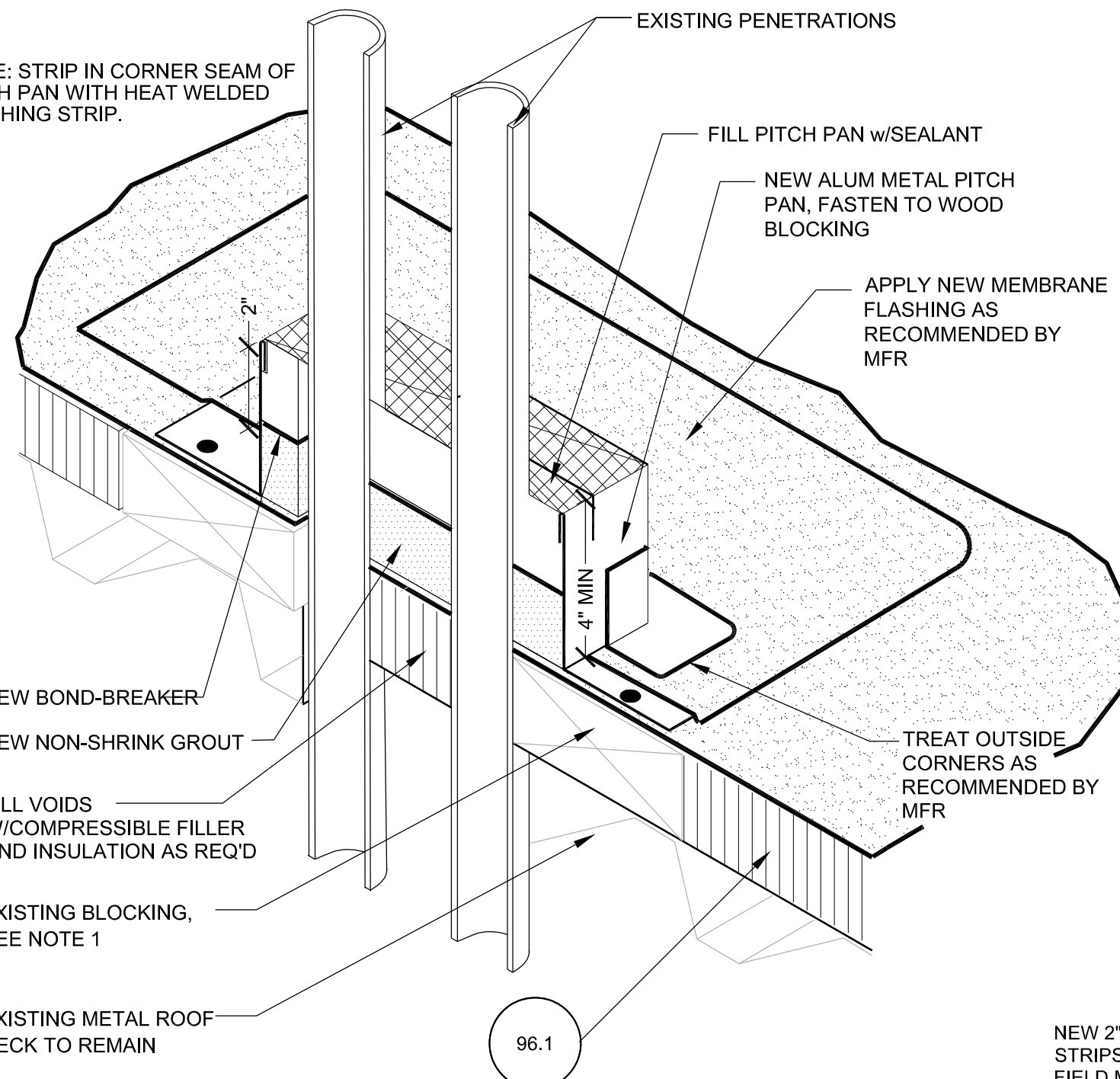
7

ROOF DRAIN DETAIL

BY									
REVISIONS									
DATE									
<p>WALKER CONSULTANTS 4004 Eisenhower Blvd Suite 150 Tampa, FL 33634 813.889.5800 Ph BE-0003840 www.walkerconsultants.com</p>									
<p>Tampa International Airport</p>									
<p>PROJECT NAME: NORTH AIR CARGO ROOF REHABILITATION BID DOCUMENTS TAMPA INTERNATIONAL AIRPORT, TAMPA, FL</p>									
<p>F.A.A. NO. N/A HCAA NO. 6530.18 JOB NO. 15-002500.18 DESIGN SMS DRAWN MCB CHECKED MPD FILE NAME SCALE: N.T.S. DATE: 10.03.2022</p>									
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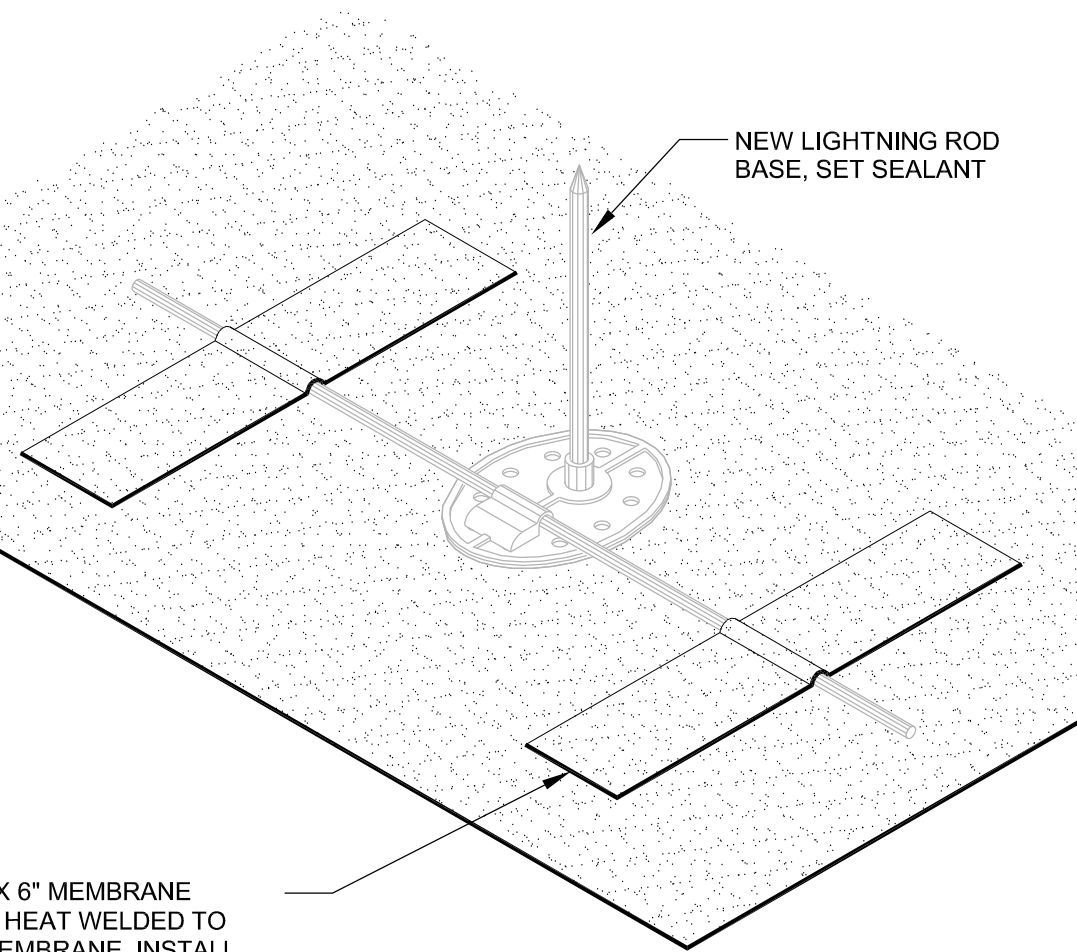
Plot Date: Oct 31, 2022 - 10:02am - 15-2500-18-R-501.dwg

NOTE: STRIP IN CORNER SEAM OF PITCH PAN WITH HEAT WELDED FLASHING STRIP.



NOTE:
 1. CONTRACTOR IS TO INSPECT EXISTING WOOD BLOCKING FOR SIGNS OF DETERIORATION OR ROT. IF DETERIORATION IS DISCOVERED NOTIFY THE OWNER PRIOR TO INSTALLATION OF NEW MATERIALS.

8 PENETRATION POCKET DETAIL



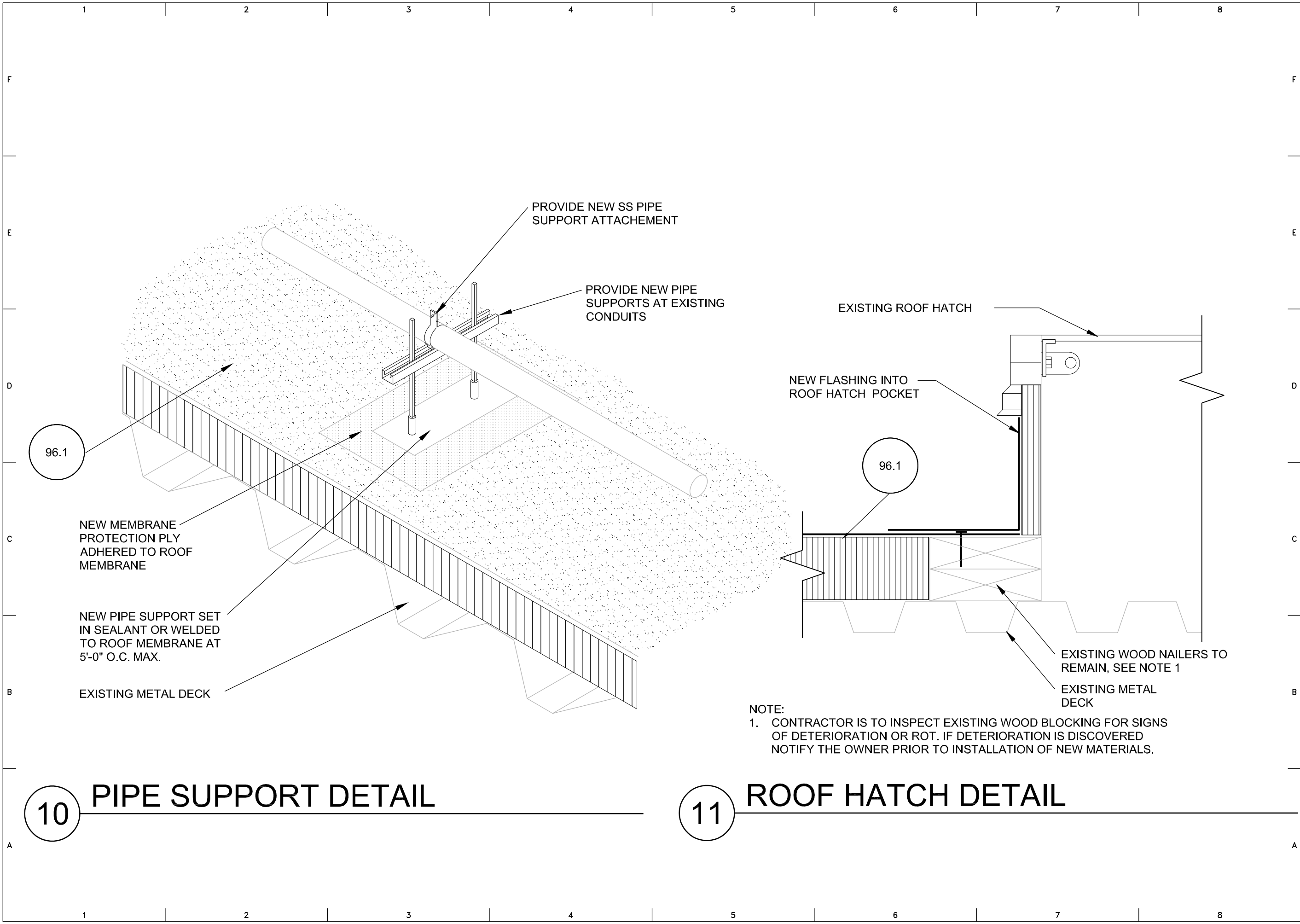
9 LIGHTNING PROTECTION FIELD ATTACHMENT

NOTE:
 1. INSTALL NEW LIGHTNING PROTECTION SYSTEM USING EXISTING GROUND CONNECTIONS.
 2. NEW LIGHTNING PROTECTION SYSTEM SHALL PROTECT THE ROOF AND ROOF TOP EQUIPMENT.

BY									
REVISIONS									
DATE									
<p>WALKER CONSULTANTS 4004 Eisenhower Blvd Suite 150 Tampa, FL 33634 813.888.5800 Ph BE-0003840 www.walkerconsultants.com</p>									
<p>Tampa International Airport</p>									
<p>PROJECT NAME: NORTH AIR CARGO ROOF REHABILITATION BID DOCUMENTS TAMPA INTERNATIONAL AIRPORT, TAMPA, FL</p>									
<p>F.A.A. NO. _____ N/A HCAA NO. _____ 6530.18 JOB NO. _____ 15-002500.18</p>									
<p>DESIGN _____ SMS DRAWN _____ MCB CHECKED _____ MPD FILE NAME _____ SCALE: _____ N.T.S.</p>									
<p>DATE: _____ 10.03.2022</p>									
<p>SHEET TITLE REPAIR DETAILS W.I. 96.1</p>									
<p>R-505</p>									

Plot Date: Oct 31, 2022 - 10:02am - 15-2500-18-R-501.dwg

Plot Date: Oct 31, 2022 - 10:02am - 15-2500-18-R-501.dwg



10 PIPE SUPPORT DETAIL

11 ROOF HATCH DETAIL

NOTE:
 1. CONTRACTOR IS TO INSPECT EXISTING WOOD BLOCKING FOR SIGNS OF DETERIORATION OR ROT. IF DETERIORATION IS DISCOVERED NOTIFY THE OWNER PRIOR TO INSTALLATION OF NEW MATERIALS.

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<p>JOB NO. <u> </u> 15-002500.18</p>									
<p>DESIGN <u> </u> SMS</p>									
<p>DRAWN <u> </u> MCB</p>									
<p>CHECKED <u> </u> MPD</p>									
<p>FILE NAME <u> </u></p>									
<p>SCALE: <u> </u> N.T.S.</p>									
<p>DATE: <u> </u> 10.03.2022</p>									
<p>SHEET TITLE</p>									
<p>REPAIR DETAILS W.I. 96.1</p>									
<p>R-506</p>									

