

TECHNICAL SPECIFICATIONS
FOR
CALOOSAHATCHEE REGIONAL
BOARDWALK REPLACEMENT

OWNER:
LEE COUNTY, FLORIDA



199 BAY ROAD
FORT MYERS BEACH, FL 33931

WEC JOB No: 23095.001

by



DECEMBER 2024

THIS IS TO CERTIFY THAT THE ENCLOSED ENGINEERING SPECIFICATIONS WERE
PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE.

Max Morgan, Professional Engineer,
State of Florida, License No. 94877

This item has been digitally signed and
sealed by Max Morgan, P.E. on the date
indicated here.

December 20, 2024

Printed copies of this document are not
considered signed and sealed, and the
signature must be verified on any
electronic copies.

Max Morgan, P.E.
FL Reg. No. 94877

**LEE COUNTY
CALOOSAHATCHEE BOARDWALK REPAIRS
TECHNICAL SPECIFICATIONS**

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SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.01 Section Includes

- A. Summary of work, other contracts, work sequence, operation of existing facilities, use of premises, Owner furnished products, coordination, cutting and patching.

1.02 Summary of Work

- A. This project consists of the removal and replacement of a section of boardwalk and the replacement of a damaged guardrail.
- B. Contractor to furnish all materials, equipment, tools, and labor which are reasonably and properly inferable and necessary for the proper completion of the Work, whether specifically indicated in the Contract Documents or not.
- C. All fees and permits for the permanent construction that are required by controlling agencies or authorities, including fees for the review of Contract Documents prior to construction, will be procured by the Owner. Other licenses or permits for construction facilities of a temporary nature that are necessary for the prosecution of the work shall be secured and paid for by the Contractor.
- D. Repair, replace, or otherwise settle with the Property Owner, if damage to property or existing facilities occurs, including damage to pavements, utilities, lawns, structures, etc.
- E. Construct the Project under a single unit price contract.

1.03 Work Sequence

- A. The Contractor's sequence of work may be of his choosing in order to complete the work in the allowed time frame while accommodating other contractors on site.

1.04 Operation of Existing Facilities

- A. The Owner shall be able to operate existing facilities 24 hours per day, 7 days per week.

1.05 Contractor Use of Premises

- A. Confine operations at the site to areas permitted by applicable laws, ordinances, permits, and by the Contract Documents. Do not unreasonably encumber the site with materials or equipment. Do not load structures with weight that will endanger the structure. The Contractor shall assume full responsibility for protection and safekeeping of products stored on the job site.
- B. Contractor shall perform work onsite during daylight hours only.

1.06 Coordination

- A. The Contractor shall be fully responsible for the coordination of his work and the work of his employees, subcontractors, and suppliers and to assure compliance with schedules.
- B. It is the Contractor's responsibility to coordinate with all the utilities regarding locates, testing, or relocations.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 22 13

UNIT PRICE MEASUREMENT

PART 1 GENERAL

1.01 Description

- A. Payment for all Work done in compliance with the Contract Documents, inclusive of furnishing all manpower, equipment, materials, and performance of all operations relative to construction of this project, will be made under Pay Items listed herein. Work for which there is not an applicable Pay Item will be considered incidental to the Contract and no additional compensation will be allowed.
- B. The Contractor shall take no advantage of any apparent error or omission in the Drawings or Specifications, and the Owner shall be permitted to make corrections and interpretations as may be deemed necessary, for fulfillment of the intent of the Contract Documents.
- C. The Owner will make measurements and determinations, as necessary, to classify the work within pay items and determine the quantities for pay purposes.

PART 2 PAY ITEMS

TS-01 MOBILIZATION:

- A. GENERAL – The work specified in this Technical Specification consists 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. The costs of bonds, any required insurance and any other preconstruction expense necessary for the start of the work, excluding the cost of construction materials, shall also be included in this Section. The Contractor shall furnish all necessary equipment storage areas.
- B. METHOD OF MEASUREMENT – The lump sum quantity for the item of Mobilization shall be the lump sum amount. This includes all items, devices, materials, labor, operations, and all work as described herein, encompassing the complete and satisfactory execution of all mobilization activities as specified.

Bid item No. 1

Mobilization

Lump Sum (LS)

TS-02 EROSION CONTROL:

- A. GENERAL – The work specified in this Technical Specification includes all necessary work, material and labor to install and maintain erosion control devices. Work includes installation of Silt Fence as shown on the BMP Plan of the Contract Plan and any other BMP methods determined necessary by the Contractor, Engineer or Owner, in order to prevent erosion to and

sedimentation of offsite areas, surface water, wetlands or existing or proposed stormwater systems.

B. METHOD OF MEASUREMENT – The unit of measure for Erosion Control is Linear Feet.

Bid item No. 2	Erosion Control	Lump Sum (LS)
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TS-03 DEMOLITION:

A. GENERAL – Demolition will be required. Debris from demolition and items to be removed shall be removed from the Owner’s property and properly disposed of by the Contractor in a permitted sanitary landfill or C&D landfill, as is appropriate for the material being removed. Contractor shall provide documentation of disposal location for approval by Grant Funding Agencies. The Contractor shall immediately remove and properly dispose of any debris that enters the water in or outside of the construction area during the demolition of the indicated structures. The site will be cleaned daily of debris. Remove and dispose of the existing fixed docks, all related attachments, any associated utilities, conduits, or debris. All piles, concrete, and other debris will be completely removed with no debris remaining above specified bottom elevation. The Contractor shall be responsible for all disposal fees and shall include said fees in its bid. Payment for this item shall be considered incidental to the boardwalk construction and no direct compensation will be made therefore.

B. METHOD OF MEASUREMENT – The lump sum quantity for the item of DEMOLITION shall be the lump sum amount and shall include all items, devices, materials, labor, operations, and all work as described herein.

Bid item No. 3	Selective Demolition	Lump Sum (LS)
Bid Item No. 12	Selective Demolition	Lump Sum (LS)

TS-04 SAFETY CURB:

A. GENERAL – The work specified in this Technical Specification includes all necessary work, material and labor to install safety curb. Work includes the installation of high density polyethylene safety curb as shown on the Contract Plans.

B. METHOD OF MEASUREMENT – The unit of measure for Safety Curb is as follows:

Bid item No. 10	Furnish and Install HDPE Safety Curb	Linear Feet (LF)
Bid item No. 11	Furnish and Install Galvanized Fasteners for Safety Curb	Each (EA)

TS-05 TIMBER PILE:

A. GENERAL – The work specified in this Technical Specification includes all necessary work, material and labor to install timber pile at the locations shown in the Contract Plans.

B. METHOD OF MEASUREMENT – The unit of measure for Timber Pile is Vertical Linear Feet.

Bid item No. 4	Furnish and Install Driven 10" Timber Pile by 20'	Vertical Linear Feet (VLF)
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TS-06 BENTS AND STRINGERS:

- A. GENERAL – The work specified in this Technical Specification includes all necessary work, material and labor to install 2x12 bents and stringers. Bents and stringers are to be treated in accordance with Contract Plans.
- B. METHOD OF MEASUREMENT – The unit of measure for Bents and Stringers is linear feet.

Bid item No. 5	Furnish and Install 2"x12" Pressure Treated Bents	Linear Feet (LF)
Bid item No. 6	Furnish and Install 2"x12" Pressure Treated Stringers	Linear Feet (LF)
Bid item No. 7	Furnish and Install 5/8" Galvanized Fasteners at Pile Caps	Each (EA)
Bid item No. 8	Furnish and Install Galvanized Clips	Each (EA)

TS-07 COMPOSITE DECKING:

- A. GENERAL – The work specified in this Technical Specification includes all necessary work, material and labor to install 2'x6' composite decking. The composite decking is to be treated in accordance with Contract Plans.
- B. METHOD OF MEASUREMENT – The unit of measure for composite decking is linear feet.

Bid Item No. 9	Furnish and Install 2"x6" Pressure Treated Composite Decking	Linear Feet (LF)
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TS-08 GUARDRAIL:

- A. GENERAL – The work specified in this Technical Specification includes all necessary work, material and labor to install guardrail. Work includes the installation of wood picket guardrail as shown on the Contract Plans.
- B. METHOD OF MEASUREMENT – The unit of measure for Guardrail is linear feet.

Bid item No. 13	Furnish and Install Pressure Treated Wood Picket Guardrail	Linear Feet (LF)
Bid item No. 14	Furnish and Install Fasteners Guardrail Galvanized	Each (EA)

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 Section Includes

- A. Meetings
- B. Construction progress documentation
- C. Submittals
- D. Record documents

1.02 Preconstruction Meeting

- A. The Owner will schedule a preconstruction meeting prior to beginning the Work to review shop drawing procedures, submittal requirements, and construction administration requirements (project coordination and communication). The Contractor shall bring to the preconstruction meeting the proposed construction schedule, which will be reviewed with the Owner during the meeting.

1.03 Progress Meetings

- A. The frequency of progress meetings shall be determined during the preconstruction meeting. At a minimum, progress meetings shall be held once every other week during construction.
- B. The Contractor and Owner shall attend the progress meetings.

1.04 Record Drawings

- A. As the Work progresses, the Contractor shall be responsible for recording information on the approved Contract Documents concurrently with construction progress. A field copy shall be maintained in the field office in clean and legible condition. It shall be available for inspection by the Owner or Engineer at any time and its completeness and accuracy will be used in evaluation of applications for payment.
- B. If requested, mark on the Specifications the manufacturer, trade name, catalog, and supplier of each product actually installed, and mark changes made by Change Order or Field Order.
- C. All Record Drawings shall be prepared by Contractor in AutoCAD format using base drawings provided by the Owner. As-built information shall be field verified, measured, certified, signed and sealed by the Contractor's licensed Surveyor who will be responsible for the accuracy of all dimensions and elevations.

- D. The as-built information shown on the Record Drawings is to include, but not be limited to, the following:
1. Horizontal locations and vertical elevations for all installed structures.
 2. Horizontal and vertical data for any construction that deviates from the approved Engineering drawings.
 3. Where the plans contain specific horizontal location data, such as station and offset, the as-built drawings are to reflect the actual horizontal location.
 4. Where the plans contain specific vertical elevation data, the as-built drawings are to reflect the actual measured vertical elevation.
 5. Contractor is to deliver to Owner one set of Record Drawings signed and sealed by Contractor's surveyor plus one electronic copy (AutoCAD format) of the drawings. Also deliver the original red-line field copy to the Owner.

END OF SECTION

SECTION 01 31 13

PROJECT COORDINATION

PART 1 GENERAL

1.01 Section Includes

- A. This Section specifies administrative and procedural requirements necessary for coordinating work operations including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.

1.02 Related Sections

- A. Section 01 31 19 – Project Meetings
- B. Section 01 33 00 – Submittal
- C. Section 01 73 29 – Cutting and Patching

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 COORDINATION

- A. It is the Contractor's responsibility to coordinate the Work to minimize conflicts and optimize efficiency.
- B. The placement of decking, lumber, other materials, and the locations, size and properties of the materials in the structure shall conform to the structural Drawings and Specifications. When the requirements of other sections of the Specifications or Drawings are in conflict with the structural requirements, the structural requirements shall take precedence.
- C. Contractor shall coordinate operations included in various sections of Contract Documents to assure efficient and orderly installation of each part of Work. Coordinate Work operations included under related sections of Contract Documents that depend on each other for proper installation, connection, and operation of Work, including but not limited to:
 - 1. Schedule construction operations in sequence required where installation of one part of work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 - 3. Provide provisions to accommodate items scheduled for later installation.
 - 4. Prepare and administer provisions for coordination drawings.

- F. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required in notices, reports, attendance at meetings, and:
 - 1. Prepare similar memoranda for Owner and Separate Work Contract where coordination of their Work is required.
- G. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation, relocation, and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Project closeout activities.
- H. Conservation: Coordinate Work operations to assure operations are carried out with consideration given to conservation of energy, water, materials, and:
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into Work.

3.02 SUBMITTALS

- A. Coordination Drawings: Contractor shall prepare coordination drawings to coordinate the installation of products and materials fabricated, furnished and installed by separate entities, under different parts of the Contract. Contractor shall notify Owner and Engineer of all major conflicts in writing in a timely manner so that the design team can respond without construction delays. Coordination drawings shall address the following at a minimum:
 - 1. Limitations in available space for installation or service. Contractor shall overlay plans of each trade and verify space requirements and conflicts between trades. Minor changes and adjustments that do not affect design intent shall be made by Contractor and shall be highlighted for Engineer's review.
 - 2. Inconsistencies between drawings, specifications and codes (between trades and within each trade).
 - 3. Additional items required for existing facilities construction projects shall be designed and prepared from available as-built drawings that are verified through non-invasive and non destructive, visual observation only. Contractor shall field verify actual existing conditions during and upon completion of demolition work and incorporate findings into preparation of coordination drawings. Minor changes and adjustments that do not affect design intent shall be made by Contractor and shall be highlighted for Owner and Engineer's reviews.
- B. Contractor shall provide and forward reproducible copies and AutoCAD drawing files in the order described here:
 - 1. Structural shop drawings shall indicate location and sizes of piles, beams and other structural members. Structural items shall be indicated using black lines.

2. Contractor will be responsible for the overall coordination review. As each coordination drawing is completed, Contractor will meet with Engineer and/or Owner to review and resolve conflicts on coordination drawings.
3. Coordination meetings will be held in Project field office of Contractor. Contractor is required to distribute Shop Drawings, cut sheets and submittals to Subcontractors where appropriate. Reviewed coordination drawings will be maintained in Project field office of Contractor. Meeting minutes shall be developed by Contractor and submitted to Owner within three (3) calendar days.
4. All Contractors shall review and sign the final coordinated set of drawing(s) prior to construction of system(s) depicted in the drawing(s).

END OF SECTION

SECTION 01 31 19
PROJECT MEETINGS

PART 1 GENERAL

1.01 Section Includes

- A. This Section specifies administrative and procedural requirements for Project meetings, including but not limited to, the following:
 - 1. Preconstruction meeting.
 - 2. Pre-installation conferences.
 - 3. Progress meetings.
 - 4. Meetings as required by Owner.

1.02 Related Sections

- A. Section 01 31 1 – Project Coordination.
- B. Section 01 33 00 – Submittals

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 Preconstruction Meeting

- A. Owner will schedule a preconstruction meeting before starting the Work at a time and date determined by Owner. Meeting shall be held at the Project site or another location as determined by Owner. Meeting will be held to review responsibilities, procedures, and other administrative requirements contained within the Contract Documents. Major trades may attend.
- B. Authorized representatives of Owner, Project Inspector, Engineer, Contractor and other parties shall attend the meeting. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda items shall include significant items which could affect progress of the Work, including, but not limited to the following:
 - 1. Identification of Owner, key team members, and roles/responsibilities
 - 2. Preliminary Construction Schedule.
 - 3. Critical work sequencing and coordination of other work.
 - 4. Designation of responsible personnel and emergency contacts.
 - 5. Procedures for processing field decisions.
 - 6. Request for Proposal.

7. Request for Information.
8. Construction Change Directive, Immediate Change Directive, and Change Order.
9. Procedures for processing Tenant Improvement Payment Applications.
10. Labor Compliance and Wage Determinations.
11. Submittal and review of Shop Drawings, Product Data, material lists, and Samples.
12. Preparation of project record documents.
13. Use of the Project site and/or premises, staging plan, trucking routes, haul routes, etc.
14. Parking availability.
15. Work and storage areas.
16. Equipment deliveries and priorities.
17. Safety procedures.
18. Emergency response.
19. First Aid.
20. Security.
21. Housekeeping.
22. Working hours.
23. Insurance Services including OCIP.
24. Environmental Health and Safety / Import and Export Testing Requirements.
25. Substantial Occupancy, Administrative Closeout and Contract Completion requirements and procedures.
26. Community and Student Workforce Project Agreement (CSWPA) Compliance.

- C. Owner shall prepare and issue meeting minutes to attendees and interested parties no later than three (3) calendar days after the meeting date.

3.02 Pre-Installation Conferences

- A. Contractor shall coordinate and conduct pre-installation conferences at the Project site as required by related Sections of the Contract Documents.
- B. Contractor, manufacturers, and fabricators involved in or affected by the installation and its coordination or integration with other preceding and/or subsequent installations of Work shall attend the meeting. Contractor shall advise Owner, Project Inspector, and Engineer of scheduled meeting dates and provide an agenda 48 hours prior to meeting.
1. Contractor shall review the progress of construction activities and preparations for the particular activity under consideration at each pre-installation conference, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related Construction Change Directives and Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Shop Drawings, Product Data, and quality-control samples.
 - g. Review of mockups.
 - h. Possible conflicts.
 - i. Compatibility problems.
 - j. Time schedules and work sequence.
 - k. Weather limitations.

- l. Manufacturer's recommendations.
- m. Warranty requirements.
- n. Compatibility of materials.
- o. Acceptability of substrates.
- p. Temporary facilities.
- q. Space and access limitations.
- r. Governing regulations.
- s. Safety.
- t. Inspecting and testing requirements.
- u. Required performance results.
- v. Recording requirements.
- w. Protection.

- 2. Contractor shall record significant discussions and directives received from each conference. Contractor shall, within three (3) calendar days after the meeting date, distribute the minutes of the meeting to all concerned parties, including but not limited to, Owner, Project Inspector, and Engineer.

3.03 Progress Meetings

- A. Progress meetings will be held at the Project site at regular intervals, weekly, as determined by the Owner.
- B. In addition to representatives of Contractor, Owner, and Engineer, each Subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of the Work shall, if requested by Owner, be represented at these meetings. All participants at the meeting shall be familiar with the Project and authorized to conclude all matters relating to the Work.
- C. Failure of Contractor to be so represented at any progress meeting which is held at a mutually agreed time or for which a written notice is given, shall not relieve Contractor from abiding by any and all Owner determinations or directives issued at such meeting.
- D. Owner will review and correct or approve minutes of the previous progress meeting and will review other significant items affecting progress. Topics for discussion as appropriate to the status of the Project include but are not limited to:
 - 1. Safety.
 - 2. Interface requirements.
 - 3. Construction Schedule.
 - 4. Sequence and coordination.
 - 5. Status of submittals / RFIs.
 - 6. Deliveries.
 - 7. Off-site fabrication.
 - 8. Access.
 - 9. Site utilization.
 - 10. Temporary Construction Facilities and Controls.
 - 11. Hours of work.
 - 12. Hazards and risks.
 - 13. Housekeeping.

14. Quality of materials, fabrication, and execution.
15. Unforeseen conditions.
16. Testing and Inspection.
17. Defective Work.
18. Construction Change Directive.
19. Request for Proposal.
20. Change Order Proposals and Change Orders.
21. Documentation of information for payment requests.
22. Other items as required or as brought forth.
23. Initial Notice of Start of Issue.
24. Final Notice of End of Issue.

D. No later than three (3) calendar days after each progress meeting, Owner will prepare and distribute minutes of the meeting to each present and absent party.

1. Schedule Updating: Contractor shall revise the Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized, and issue the revised schedule at the next scheduled progress meeting.

3.04 Additional Meetings

A. Upon notice to the intended parties and without further obligation, Owner may require additional meetings to discuss Work and/or Project related activities.

END OF SECTION

SECTION 01 33 00

SUBMITTALS

PART 1 GENERAL

1.01 Construction Schedules

- A. The Contractor shall submit two copies of Progress Schedules indicating the starting and completion dates of the various stages of the work. The proposed Progress Schedules shall be submitted to the Owner prior to the preconstruction meeting. The Contractor shall distribute copies of the Progress Schedules during the preconstruction meeting for discussion. The Progress Schedules shall be updated by the Contractor and submitted to the Owner, as a part of applications for progress payments, through completion of the Work. Failure to update the progress schedule may be the basis for rejection of applications for progress payments.
- B. The Contractor, if applicable, shall submit two copies of Schedules of Value of the work to the Owner. A preliminary Schedule of Values shall be submitted by the Contractor prior to the preconstruction meeting. A final Schedule of Values, presented in sufficient detail to serve as the basis for payments during construction, shall be submitted to the Owner for approval at least ten (10) days prior to submitting the first Application for payment.

1.02 Applications for Payment

- A. The Contractor shall submit Applications for payment to the Owner in accordance with the provisions of the General Conditions. Applications for Payment shall be made on forms provided by the Owner.

1.03 Shop Drawings, Product Data and Samples

- A. The Contractor shall submit shop drawings, product data and samples, as required by the individual Specification Sections, to the Owner.
- B. Shop drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to Contract Drawing Number, Detail and Contract Specification Section and Page Number.
- C. The product data shall be presented in a clear and thorough manner identified the same as the shop drawings. Included with the information shall be performance characteristics and capacities depicting dimensions and clearances required. The manufacturer's standard schematic drawings and diagrams shall be modified to delete information which is not applicable to the work. Manufacturer's standard information shall be supplemented to provide information specifically applicable to the work.
- D. Samples shall be of sufficient size and quantity to clearly illustrate functional characteristics of the product with integrally related parts and attachment devices depicting full range of color, texture and pattern.

- E. The Contractor shall make submittals in accordance with the approved schedule, and in such sequence as to cause no delay in the work or in the work of any Contractor. No damages will be awarded or extension of time granted due to the shop drawing and product data review process.
- F. The Contractor shall submit an entire package of shop drawings and product data information for major items of work so that the Owner/Engineer can review the package as a unit.
- G. The number of submittals required shall be six (6) copies of each shop drawing or product data information sheet. Submittals shall contain the following information:
 - 1. Field dimensions, clearly identified as such.
 - 2. Relation to adjacent or critical features of the work or materials.
 - 3. Applicable standards, such as ASTM or Federal Specification Numbers.
 - 4. Identification of deviations from Contract Documents.
 - 5. Identification of revisions on re-submittals.
 - 6. Contractor's stamp indicating as a minimum the Project Title, Date of Submission, Date of Previous Submission, and Contract Specification Section Reference which shall be initialed or signed, certifying the review and approval of submittal per General Conditions, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the work and of Contract Documents.
- H. The Engineer shall affix a stamp and initials or signature and indicate confirmation or requirements for re-submittal. The Owner shall return to the Contractor three (3) copies of the product data information for distribution or for resubmission.
- I. The Contractor shall make all corrections or changes in the submittals required by the Owner and resubmit. The Contractor shall indicate any changes which have been made other than those requested by the Owner.

1.04 Specification Section Requirements

- A. Miscellaneous schedules, field reports, test reports, affidavits, certificates, permits, agreements and other items identified in the Technical Specification Sections, or as requested by the Owner. As a minimum, these submittals should be identified with the Project File, Date of Submission, and Contract Specification Section Reference.

1.05 Manufacturer's Operation and Maintenance Data

- A. Prior to 50 percent completion of the project the Contractor shall furnish seven (7) copies of all operation and maintenance data required by the various Technical Sections. Prior to 50 percent completion of the Project, the Contractor shall have submitted one (1) acceptable copy to the Owner.
- B. The operation and maintenance data shall be bound in a suitable three-ring binder(s). A Table of Contents shall be provided in the front of each binder to list the various sections of the Manual.

- C. The information to be provided in each section for each piece of equipment and project component shall include but not be limited to: detailed equipment drawings; sections cut through all of the major equipment and sub-assemblies; installation and operational procedures; maintenance procedures; and parts lists complete enough to permit identification of parts by nomenclature, number and use.
- D. At the front of each section a maintenance schedule shall be provided for each piece of equipment in the section. The schedule shall display the daily, weekly, monthly, semi-annual, annual or fraction thereof, lubrication and preventative maintenance required in order to meet warranty conditions and the manufacturer's recommendations for optimum performance and life of the unit. A common schedule format is to be developed and used for all of the sections.

END OF SECTION

SECTION 01 41 00

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 Description

A. Permits and Responsibilities

1. The Contractor shall, without additional expense to the Owner, be responsible for obtaining any necessary licenses and permits, and for complying with any applicable Federal, State and municipal laws, codes and regulations in connection with the execution of the Work. The Contractor shall take proper safety and health precautions to protect the Work, the workers, the public and the property of others. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the Work, except for any completed unit of construction thereof which may heretofore have been accepted.

END OF SECTION

SECTION 01 42 00

REFERENCE STANDARDS

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 Definitions

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Engineer's action on Contractor's submittals, applications, and requests, "approved" is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Engineer. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 Industry Standards

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

END OF SECTION

SECTION 01 42 13

ABBREVIATIONS

Wherever in these Specifications and Contract Documents the abbreviations, or pronouns in place of them are used, the intent and meaning shall be interpreted as specified herein.

AA	Aluminum Association
AAMA	Architectural Aluminum Manufacturer's Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AEIC	Association of Edison Illuminating Companies
AFBMA	Anti-Friction Bearing Manufacturers Association
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AIA	American Institute of Architects
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute
AMCA	Air Moving and Conditioning Association
APA	American Plywood Association
APHA	American Public Health Association
API	American Petroleum Institute
APWA	American Public Works Association
ARC	Appalachian Regional Commission
AREA	American Railroad Engineering Association
ASA	American Standards Association
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWPA	American Wood Protection Association
AWWA	American Water Works Association
CFR	Code of Federal Regulations
CRSI	Concrete Reinforcing Steel Institute
CTI	Cooling Tower Institute
DEMA	Diesel Engine Manufacturers Association
EDA	Economic Development Administration
EIA	Electronic Industries Association
EPA	Environmental Protection Agency
FmHA	Farmers Home Administration
FS	Federal Specifications
HEI	Heat Exchange Institute

IEEE	Institute of Electronic and Electrical Engineers
IES	Illuminating Engineering Society
IPCEA	Insulated Power Cable Engineers Association
IPC	Institute of Printed Circuits
ISA	Instrument Society of America
MBMA	Metal Building Manufacturers Association
MSS	Manufacturers Standardization Society of the Valve and Fitting Industry
NAAMM	National Association of Architectural Metal Manufacturers
NACE	National Association of Corrosion Engineers
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards
NCPI	National Clay Pipe Institute
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NRMA	National Ready-Mix Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCF	Pounds per Cubic Foot
PCI	Prestressed Concrete Institute
SBC	Southern Building Code
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SSPC	Steel Structures Painting Council
SS	Stainless Steel
TCA	Tile Council of America
TEMA	Tubular Exchangers Manufacturers Association
UBC	Uniform Building Code
UL	Underwriters Laboratories
USDC	United States Department of Commerce
WPCF	Water Pollution Control Federation

END OF SECTION

SECTION 01 43 00

QUALITY CONTROL

PART 1 GENERAL

1.01 Description of Requirements

A. Definitions

1. Specific quality control requirements for the work are indicated throughout the Contract Documents. In particular, quality control provisions for manufactured products are specified in individual work sections and in other related sections; and are not repeated in this section. The requirements of this section are primarily related to the performance of the work beyond the furnishing of manufactured products. The term "Quality Control" includes, but is not necessarily limited to, inspection and testing and associated requirements. This section does not specify or modify the Owner's duties relating to Contract quality review and observation.

1.02 Quality Assurance

A. General Workmanship Standards:

1. Except as more definitively specified in other sections, comply with the recognized workmanship quality standards within the industry as applicable to each unit of work, including ANSI standards where applicable. It is a requirement that each category of tradesman or installer performing the work be prequalified, to the extent of being familiar with the applicable and recognized quality standards for his category of work and being capable of workmanship complying with those standards.

1.03 Submittals

- A. Refer to Section 01 33 00 for the general submittal requirements applicable to inspection and test reports, project photographs, damage surveys, quality control samples, maintenance agreements, guaranties, warranties, and similar documentation of quality compliances as required.
- B. Copies and Distribution: Where inspection, test reports and certifications are required by governing authorities, provide additional copies as required. When required, send copies directly from inspection or testing agency to governing authority.

1.04 Product Delivery-Storage-Handling

- A. Materials, supplies, and equipment delivered to the site shall be inspected for damage, unloaded, and stored with a minimum of handling. Delivered items shall not be stored directly on the ground. Handle, store and protect materials and products, including fabricated components, by methods and means recommended by the manufacturer which will prevent damage, deterioration and losses (and resulting delays), thereby ensuring highest quality results as the performance of the work progresses. Control delivery schedules so as to minimize

unnecessary long-term storage at the project site prior to installation. Periodically exercise equipment stored in accordance with the manufacturer's recommendations.

- B. The Owner may refuse to accept, or sample for testing, materials, supplies, or equipment that have been improperly or unsuitably stored.
- C. Materials, supplies or equipment found defective or unfit for use shall not be incorporated in the work and shall immediately be removed from the construction or storage site and replaced with new materials, supplies or equipment by the Contractor at no additional cost to the Owner.
- D. If, instead of requiring removal and replacement of defective items, the Owner (and, prior to approval of final payment) prefers to accept the defective item(s), he may do so. In such case, if acceptance occurs prior to approval of final payment, a change order shall be issued incorporating the necessary revisions in the Contract Documents, including appropriate reduction in the Contract price; or if the acceptance occurs after approval of final payment, an appropriate amount shall be paid by the Contractor to the Owner.

1.05 Responsibility for Inspections and Tests

A. Contractors Responsibility:

1. It will be the Contractor's responsibility to employ and pay for the services of certified independent testing laboratories. In addition, the Contractor shall pay for all retests required due to failure to meet specifications.
 - a. The certified independent testing laboratories qualifications, test procedures, forms and quality control program shall be submitted to the Owner for review and approval.
 - b. No failure of test agencies, whether engaged by the Owner or Contractor, to perform adequate inspections or tests or to properly analyze or report results, shall relieve the Contractor of responsibility for the fulfillment of the requirements of the Contract Documents. It is recognized that the required inspection and testing program is intended to assist the Contractor, Owner and governing authorities in the nominal determination of probable compliances with requirements for certain crucial elements of work. The program is not intended to limit the Contractor in his regular quality control program, as needed for general assurance of compliances.
2. Coordination with Owner 's Agencies:
3. Afford access and reasonable time in the construction sequence for Owner's inspections and tests to be performed. Cooperate with agencies and provide incidental labor and services needed for the removal and delivery of test samples, and for inspections and taking measurements. Provide patching and restoration services where test samples have been removed.

B. Test Agency Responsibilities:

1. Test agencies, regardless of whether engaged by the Owner or Contractor, are not authorized to change or negate the requirements of the Contract Documents. Each agency shall coordinate its assigned work with the construction schedule as maintained by the Contractor, and shall perform its work promptly so as not to delay the work avoidably. Observations (by agencies) having a bearing on the work shall be reported to the Owner, in the most expeditious way possible, and shall be recorded in writing by the agency. Agency personnel shall not interfere with or assume the duties of the Contractor.

PART 2 PRODUCTS

2.01 Equipment and Materials

- A. All equipment and materials furnished under these specifications shall be new and unused.

PART 3 EXECUTION

3.01 Installation

A. Pre-Installation Conferences:

1. Well in advance of the installation of every major unit of work which requires coordination with other work, meet at the project site with installers and representatives of manufacturers and fabricators who are involved in or affected by the unit of work, and in its coordination or integration with other work which has preceded or will follow. Advise Owner of scheduled meeting dates. At each meeting, review the progress of other work and preparations for the particular work under consideration including, but not limited to, the requirements of the 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. Record the significant discussions of each conference, and the agreements and disagreements, along with the final plan of action. Distribute record of meeting promptly to everyone concerned, including the Owner.
2. The Contractor shall not proceed with the work if the associated pre-installation conference cannot be concluded successfully. Instigate actions to resolve impediments to the performance of the work, and reconvene the conference at the earliest date feasible.

B. Installer's Inspection of Conditions:

1. The Contractor shall require the Installer of each major unit of work to inspect the substrate to receive the work, and the conditions under which the work will be performed, and to report (in writing to the Contractor) unsatisfactory conditions. The Contractor shall not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

3.02 Installation Quality Control

A. Manufacturer's Instructions:

1. Where installations include manufactured products, the Contractor shall comply with the manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in the Contract Documents.

- B. The Contractor shall inspect each item of materials or equipment immediately prior to

installation, and reject damaged and defective items.

1. The Contractor shall provide attachment and connection devices and methods for securing work properly as it is installed; true to line and level, and within recognized industry tolerances if not otherwise indicated. Allow for expansions and structure movements. Provide uniform joint widths in exposed work, organized for best possible visual effect. Refer questionable visual effect choices to Engineer for final decision.
 2. The Contractor shall recheck measurements and dimensions of the work as an integral step of starting each installation.
 3. The Contractor shall install work during conditions of temperature, humidity, exposure, forecasted weather, and status of project completion which will ensure the best possible results for each unit of work, in coordination with the entire work. Isolate each unit of work from incompatible work, as required to prevent deterioration.
 4. The Contractor shall coordinate enclosure (closing-in) of work with required inspections and tests, so as to avoid the necessity of uncovering work for that purpose.
- C. Adjust, clean, lubricate, restore marred finishes, and protect newly installed work to ensure that it will remain without damage or deterioration during the remainder of the construction period.

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 Scope

- A. Contractor shall provide temporary services and facilities for use by all Prime Contractors and the Engineer except as otherwise herein specified for all his personnel. Do not remove temporary facilities until authorized use of permanent facilities.

1.2 Use Charges

- A. Usage charges for temporary services or facilities shall be paid by the General Contractor.

1.3 Regulations and Limitations

- A. Comply with requirements of local laws and regulations governing construction and local industry standards in the installation and maintenance of temporary services and facilities.
- B. The Contractor shall be limited to work within the property limits of the site and shall be responsible for and take necessary precautions to avoid damage to all adjacent property.

1.4 Temporary Utility Installation

- A. Engage the local utility company to install temporary services. As early as possible change to use of permanent service to enable removal of the temporary utility and eliminate possible interference with completion of the work.
- B. Water Service: Provide temporary potable water supply at the site for construction purposes. Use of Owner's hydrants is prohibited for this purpose.
- C. Electrical Power Service: Provide weather-tight, grounded temporary electrical service-entrance and distribution system, with ground-fault circuit interrupters and ground-fault interrupter features of proper types, sizes, electrical ratings and characteristics to fulfill project requirements. Comply with applicable requirements of NEMA, NECA and UL standards and governing regulations. Install temporary lighting of adequate illumination levels to perform the work specified. Temporary electric service for construction purposes shall be for use by all prime contractors.

1.5 STAGING AREAS

- A. Space available on site for trailers, materials storage, and staging is limited. Contractors shall obtain approval of the Owner for areas which may be used that will not interfere with location operations. Wetland and rapid infiltration bed (RIB) areas may not be disturbed.
- B. If additional space is required, the Contractors are responsible for leasing or otherwise securing the necessary space, off site.

1.6 Temporary Roads and Pavement

- A. Provide temporary graveled roads and graveled parking facilities during the course of the work. Locate in the same locations as permanent facilities and in compliance with applicable requirements from the permitting agency and authority having jurisdiction (AHJ).
- B. Coordinate temporary drives with grading and compaction of the subgrade, installation and stabilization of subbase and installation of base and finish courses of permanent paving.
- C. Construct and maintain temporary roads to support loading and to withstand exposure to traffic. Provide a graded and well compacted, well drained subgrade, and a gravel paving course of a well graded subbase material not less than 3 inches thick, roller compacted to a level, smooth surface.
- D. Delay installation of the final course of permanent paving in areas exposed to temporary use, until immediately before substantial completion.
- E. Completely remove temporary roadways in areas not to receive permanent paving, prior to seeding.

1.7 SANITARY FACILITIES

- A. Sanitary facilities include temporary toilets for construction personnel of all prime contractors.
 - 1. Supply toilet tissue, paper towels, paper cups and similar disposable materials as appropriate for each facility. Provide appropriate covered waste containers for used material.
 - 2. Toilets: Install single occupant self-contained toilet units of the chemical, aerated recirculation or combustion type, properly vented and fully enclosed with glass fiber reinforced polyester shell. Use of pit-type privies will not be permitted.
 - 3. Provide separate toilet facilities for male and female construction personnel at ground level. Use of park facilities is prohibited.
- B. Drinking Water: Provide tap-dispenser bottled-water type drinking water units for personnel of all prime contractors and subcontractors.

1.8 Security and Protection Facilities Installation

- A. Maintain site in a safe, lawful and publicly acceptable manner. Each prime contractor shall be responsible for security of their own office and storage facilities.

1.9 Barricades, Warning Signs and Lights

- A. Comply with recognized standards and code requirements for erection of barricades where needed to prevent accidents. Paint with appropriate colors, graphics and warning signs to inform personnel at the site and the public of the hazard being protected against. Provide lighting where needed, including flashing red lights where appropriate.

1.10 MAINTENANCE

- A. Operate and maintain temporary services and facilities in good operating condition and in a safe

and efficient manner until removal is authorized. Do not overload services or facilities. Protect from damage by freezing temperatures and similar elements. Do not allow unsanitary conditions, public nuisances or hazardous conditions to develop or persist on the site.

1.11 Termination and Removal

- A. Remove each temporary service and facility promptly when need has ended, or when replaced by use of a permanent facility, but no later than substantial completion. Complete, or, if necessary, restore permanent work delayed because of interference with the temporary service or facility. Repair damaged work, clean exposed surfaces and replace work that cannot be repaired.
- B. At substantial completion, clean and renovate permanent services and facilities that have been used to provide temporary services and facilities during the construction period.

END OF SECTION

SECTION 01 57 00

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.01 Land for Contractor's Use

- A. Site Access and Parking – The Contractor shall maintain driveways a minimum of 15 feet wide between and around combustible materials in storage and mobilization areas.
- B. The Contractor shall maintain traffic areas free as possible of excavated materials, construction equipment, products and debris.
- C. The Contractor shall not utilize existing parking facilities for construction personnel or for Contractor's vehicles or equipment, unless written permission from Owner of parking facility is obtained.
- D. Private or Public Roads, Sidewalks and Parking Areas – The Contractor shall at all times provide emergency access to property in the vicinity of the construction for police and fire equipment, ambulances or other emergency vehicles to protect life, health and property.
- E. The Contractor is responsible for constructing project in a sequence which will allow the general public to utilize sections of park not actively being worked in.

1.02 Traffic Maintenance and Control

- A. Road Closing – No Street, road or section thereof shall be closed to through traffic unless otherwise provided for on the Plans, Specifications, or authorized by the agency with jurisdiction over the roads. Prior to the closing a street, road, or section thereof, the Contractor shall provide the Engineer with a copy of a detour Plan approved by the agency having jurisdiction over the roads.
- B. In the event roads or streets are to be closed, the Contractor shall notify the local fire department, police department, local road authority, ambulance and emergency services, and public school system daily as to what streets will be partly blocked or closed, the length of time the streets will be blocked or closed and when the streets will be reopened to traffic.
- C. Maintaining Traffic – The Contractor shall provide a Maintenance of Traffic Plan for all areas where construction will impede the normal flow of traffic in compliance with the Current FDOT Design Standards 600 Series.
- D. Existing Signs – No stop sign, traffic control or warning device shall be taken down until the agency having jurisdiction over the roads has been notified and arrangements for the immediate reinstallation has been made. The Contractor shall provide temporary signs, traffic control devices, warning devices, or watchmen continuously from the time the item is removed until it is reinstalled. All signs removed shall be replaced with signs meeting requirements of the agency having jurisdiction over the roads.

1.03 Temporary Utility Services

- A. Electricity and Lighting – The Contractor shall be responsible for and pay all costs for the installation and removal of circuit and branch wiring, with area distribution boxes located so that power and lighting is available throughout the construction by the use of construction-type power cords and shall pay all costs of electrical power used.
- B. Electrical wiring and distribution shall conform to the National Electrical Code and all applicable national, state and local codes.
- C. Sanitary Provisions – The Contractor shall be responsible for installation, maintenance and removal of temporary sanitary facilities for use of construction personnel. All rules and regulations of the State and local health officials shall be observed, with precautions taken to avoid creating unsanitary conditions.

END OF SECTION

SECTION 01 61 00

MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.1 Description

A. Proposed Manufacturers List:

1. Within 15 calendar days of the date of the Notice to Proceed, submit to the Engineer a list of names of proposed manufacturers, materialmen, suppliers and subcontractors, obtain approval of this list by Owner prior to submission any working drawings. Upon request submit evidence to Engineer that each proposed manufacturer has manufactured a similar product to the one specified and that it has previously been used for a like purpose for a sufficient length of time to demonstrate its satisfactory performance.

B. Furnish and install Material and Equipment which meets the following:

1. Conforms to applicable specifications and standards.
2. Complies with size, make, type, and quality specified on Plans or as specifically approved, in writing, by Engineer.
3. Will fit into the space provided with sufficient room for operation and maintenance access and for properly connecting piping, ducts and services, as applicable. Make the clear spaces that will be available for operation and maintenance access and connections equal to or greater than those shown and meeting all the manufacturers' requirements. Make all provisions for installing equipment furnished at no increase in Contract Price.
4. Manufactured and fabricated in accordance with the following:
 - a. Design, fabricate, and assemble in accordance with best engineering and shop practices.
 - b. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
 - c. Provide two or more items of same kind identical, by same manufacturer.
 - d. Provide materials and equipment suitable for service conditions.
 - e. Adhere to equipment capabilities, sizes, and dimensions shown or specified unless variations are specifically approved, in writing, in accordance with the Contract Documents.
 - f. Adapt equipment to best economy in power consumption and maintenance. Proportion parts and components for stresses that may occur during continuous or intermittent operation and for any additional stresses that may occur during fabrication or installation.
 - g. Working parts are readily accessible for inspection and repair, easily duplicated and replaced.
5. Use material or equipment only for the purpose for which it is designed or specified.

1.3 Substitutions

A. Substitutions:

1. Contractor's requests for changes in equipment and materials from those required by the Contract Documents are considered requests for substitutions and are subject to Contractor's representations and review provisions of the Contract Documents when one of following conditions are satisfied:
 - a. Where request is directly related to an "or equal" clause or other language of same effect in Specifications.

END OF SECTION

SECTION 01 71 13

MOBILIZATION

PART 1 GENERAL

1.01 Mobilization

A. Mobilization shall include the obtaining of all permits; moving onto the site of all equipment; temporary buildings and other construction facilities; essential personnel; and implementing security requirements; all as required for the proper performance and completion of the WORK. Mobilization shall include the following principal items:

1. Moving on to the site of all Contractor's equipment required for first month operation
2. Installing temporary construction power, wiring, and lighting facilities, as needed.
3. Developing construction water supply, if required for construction.
4. Providing all on-site communication facilities, including cellular phone for the Superintendent.
5. Providing on-site sanitary facilities.
6. Arranging for and erection of Contractor's work, site access, and storage.
7. Obtaining all required permits.
8. Having all OSHA required notices and establishment of safety programs.
9. Submitting initial submittals.
10. Demobilization at the completion of construction

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 GENERAL

1.1 Related Documents

The Contract Documents, including but not limited to, the Drawings and Individual Specification Sections, apply to this Section.

1.2 Summary

- A. This Section includes procedural requirements for cutting and patching.
- B. Responsibility: Each Contractor is responsible for the cutting and patching to permit installation or performance of Work of their contract.
- C. Related Sections include the following:
 - 1. Individual Specification Sections.

1.2 Definitions

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of Work of the contract.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of Work of the contract.

1.3 Submittals

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
 - 1. Extent: At each occurrence, describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
 - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
 - 3. Products: List products to be used and firms or entities that will perform the Work.
 - 4. Dates: Indicate when cutting and patching will be performed.
 - 5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and

those that will be temporarily out of service. Indicate how long services/systems will be disrupted.

6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Design Professional's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.4 Quality Assurance

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.
- C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, which results in reducing their capacity to perform as intended, or that result in increased maintenance or decreased operational life or safety.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Design Professional's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including other trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 Warranty

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 PRODUCTS

2.1 Materials

- A. General: Comply with requirements specified in other Sections.

- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials, unless specified otherwise in other Sections or Plans.
- C. Fire Rated Elements: Provide firestopping products/systems specified in system design listings by approved testing agencies that conform to the construction type, penetrating item, annular space requirements and fire rating involved in each separate assembly. Refer to applicable Individual Specification Sections.

PART 3 EXECUTION

3.1 Examination

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 Preparation

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting or patching to minimize interruption to occupied areas.

3.3 Performance

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete or Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Proceed with patching after construction operations requiring cutting are complete.
- C. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION

SECTION 01 74 00

CLEANING

PART 1 GENERAL

1.1 Scope

- A. This section covers general cleaning which the Contractor shall be required to perform both during construction and before final acceptance of the project unless otherwise shown on the Drawings or specified elsewhere in these Specifications.

1.2 Hazard Control

- A. The Contractor shall store volatile wastes in covered metal containers and remove from premises daily.
- B. The Contractor shall prevent accumulation of wastes which create hazardous conditions.
- C. Burning or burying rubbish and waste materials on the site shall not be allowed.
- D. Disposal of volatile wastes into sanitary or storm sewers shall not be allowed.

1.3 Disposal of Surplus Materials

- A. Unless otherwise shown on the Drawings, specified or directed, the Contractor shall dispose of all surplus materials and equipment from demolition, legally off the site, and shall provide his own suitable, off-site spoil area, or on a site designated by the Owner.
- B. The Owner shall have the opportunity to inspect any equipment or materials removed prior to disposal by the Contractor. If said equipment and/or materials are determined to be salvageable by the Owner, the Contractor shall transport said equipment and material to a building or area designated by the Owner.

1.4 FINAL CLEANING

- A. The Contractor shall schedule cleaning operations so that dust and other contaminants resulting from the cleaning process will not fall on wet, newly painted surfaces.
- B. The Contractor shall employ experienced workmen or professional cleaners for final cleaning.
- C. The Contractor shall broom clean paved surfaces; rake clean other surfaces of grounds.
- D. Upon completion of the work, Contractor shall remove from the site all plant, material, tools and equipment belonging to him, and leave the site with an appearance acceptable to the Engineer.

- E. Restoration of Landscape Damage – Any landscape feature scarred or damaged by the Contractor's equipment or operations shall be restored as nearly as possible to its original condition at the Contractor's expense. The Engineer will decide what method of restoration shall be used.
- F. Post-Construction Cleanup or Obliteration – Contractor shall obliterate all signs of temporary construction facilities such as haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, or any other vestiges of construction.

END OF SECTION

SECTION 01 77 00
CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 Section Includes

Substantial completion requirements, clean-up, final completion requirements, closeout submittals.

1.02 Clean-Up Operations

- A. The entire project site shall be thoroughly cleaned at the completion of the work.
- B. Clean all installed structures, plus all adjacent areas affected by construction, as directed by the Owner or jurisdictional agency. Equipment to clean these surfaces shall be subject to approval by the Owner.

1.03 Substantial Completion Requirements

- A. Complete the following before requesting the inspection for certification of substantial completion.
 - 1. Submit as-built drawings.
 - 2. Deliver tools, spare parts, extra stocks of material and similar physical items to the Owner.
 - 3. Complete required cleaning and testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities and services from the project site, along with construction tools and facilities, mock-ups, and similar elements.
 - 4. Complete final cleaning up requirements, including touch-up painting of marred surfaces.
 - 5. Touch-up and otherwise repair and restore marred exposed finishes.
- B. Work is not substantially complete until regulatory agency letters of clearance for placing systems into service are received by the Owner.

1.04 Closeout Submittals

- A. Upon completion of the project, or portions thereof, the Contractor shall transfer to the Owner all applicable items accumulated throughout construction. These include but are not limited to the following items:
 - 1. Service manuals, installation instructions, special tools, and specialties.
 - 2. Spare parts ordered as part of this Contract.
 - 3. Submittal of the Material and Workmanship Bond.
 - 4. Submittal of manufacturers' guarantees, bonds, and letters of coverage extending beyond the time limitations of the Contractor's guarantee.

5. Delivery of any salvaged or borrowed materials or equipment to the Owner
6. Record documents of completed facilities.
7. All keys to all doors, gates, and equipment.
8. Checklist indicating satisfactory completion of all unfinished items from the final inspection.
9. Waivers of lien from Contractor plus all Subcontractors and Suppliers.
10. Consent of Surety.

END OF SECTION

SECTION 02 21 13

SITE SURVEYS

[SEE SECTION 01 30 00 – ADMINISTRATIVE REQUIREMENTS]

END OF SECTION

SECTION 02 41 00

DEMOLITION

PART 1 GENERAL

1.1 Summary

A. This Section includes demolition and removal of the following:

1. Structures
2. Protecting existing trees, shrubs, groundcovers, plants, and grass to remain.
3. Protecting existing utilities, concrete paving, curb and gutters, and site lights to remain.
4. Clearing and grubbing.
5. Removing above-ground site improvements.
6. Temporary erosion and sedimentation control measures.

1.2 Definitions

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or recycled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.
- C. 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 recycled.

1.3 Materials Ownership

- A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.4 Quality Assurance

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI A10.6 and NFPA 241.
- C. Predemolition Conference: Schedule conference with Owner.

1.5 Project Conditions

- A. Structures to be demolished will be vacated and their use discontinued before start of Work.
- B. Owner assumes no responsibility for buildings and structures to be demolished.

1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 2. Before building demolition, Owner will remove the following items:
 - a. Owner to verify if any items need to be removed before construction commences.
- C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
1. Hazardous materials will be removed by Owner before start of the Work.
 2. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Engineer and Owner. Hazardous materials will be removed by Owner under a separate contract.
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- F. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- G. Utility Locator Service: Notify utility locator service to identify utilities for area where Project is located before site clearing.
- H. Do not commence site-clearing operations until temporary erosion and sedimentation control measures are in place.

1.6 Coordination

- A. Arrange demolition schedule so as not to interfere with on-site operations.

PART 3 EXECUTION

3.1 Examination

- A. Survey existing conditions and correlate with requirements indicated to determine extent of building and site demolition required.
- B. Review Project Record Documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Inventory and record the condition of items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements are encountered, investigate and measure the nature and extent of the element. Promptly submit a written report to Engineer.

3.2 Preparation

- A. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.
- B. Removed and Salvaged Items: See Section 02 42 00
- C. Protect and maintain benchmarks and survey control points from disturbance during construction.
- D. Locate and clearly flag trees and vegetation to remain or to be relocated.
- E. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.3 Temporary Erosion and Sedimentation Control

- A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.4 Tree Protection

- A. Erect and maintain temporary fencing around tree protection zones before starting site clearing. Remove fence when construction is complete.
- B. Do not excavate within tree protection zones, unless otherwise indicated.
- C. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, in a manner approved by Engineer.

3.5 Protection

- A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations.
- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during demolition. When permitted by Engineer, items may be removed to a suitable, protected

storage location during demolition and reinstalled in their original locations after demolition operations are complete.

C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated. Comply with requirements in Division 1 Section "Temporary Facilities and Controls."

1. Protect existing site improvements, appurtenances, and landscaping to remain.
2. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent structures to remain.

3.6 Demolition, General

A. General: Demolish indicated existing components, structures, and site improvements completely. Use methods required to complete the Work within limitations of governing regulations.

3.7 Site Restoration

A. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

3.8 Disposal

- A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
- B. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

3.9 Repairs

A. General: Promptly repair damage to adjacent construction caused by structure demolition operations.

3.10 Recycling Demolished Materials

- A. General: Separate recyclable demolished materials from other demolished materials to the maximum extent possible. Separate recyclable materials by type.
1. Provide containers or other storage method approved by Engineer for controlling recyclable materials until they are removed from Project site.
 2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 3. Stockpile materials away from demolition area. Do not store within drip line of remaining trees.
 4. Store components off the ground and protect from the weather.
 5. Transport recyclable materials off Owner's property and legally dispose of them.

- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling building demolition materials shall accrue to Owner.

3.11 Disposal of Demolished Materials

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

- B. Burning: Do not burn demolished materials.

- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.12 Cleaning

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by structure demolition operations. Return adjacent areas to condition existing before structure demolition operations began.

END OF SECTION

SECTION 02 42 00

REMOVAL AND SALVAGE OF CONSTRUCTION MATERIALS

PART 1 GENERAL

1.1 Summary

A. This section includes the removal and salvaging of the following:

1. Lumber
2. Timber piles
3. Wood railings

A. See Section 02 41 00 for demolishing site structures.

1.2 Materials Ownership

A. Except for materials indicated to remain Owner's property, removed materials shall become Contractor's property and shall be removed from Project site.

1.3 Salvageable Items

A. Carefully remove items indicated to be salvaged and store on site indicated by Owner

PART 3 EXECUTION

3.1 Examination

A. Review Project Record Documents of existing construction indicated to be salvaged by Owner. If upon discovery, existing conditions are not the same as indicated on the Record Documents, then the Owner will determine if it is worth salvaging.

B. Inventory and record the condition of items to be salvaged.

C. Removed and Salvaged Items: Comply with the Following:

1. Clean salvaged items of dirt and demolition debris
2. Pack or crate items after cleaning. Identify contents of containers.
3. Store items in secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner. Protect items from damage during transport and storage.

3.2 Recycling Demolished Materials: See Section 02 41 00

END OF SECTION

SECTION 06 05 23

WOOD, PLASTIC, AND COMPOSITE FASTENINGS

PART 1 GENERAL

1.01 Summary

A. This section includes the work required to furnish and install fasteners for the following:

1. Timber Piles
2. Pile Caps
3. Bents
4. Stringers
5. Safety Curbs
6. Composite Decking
7. Guardrails

PART 2 PRODUCTS

2.01 Materials

- A. Unless specified otherwise, all bolts, fasteners, brackets and straps shall be Z-Max, G-185, or similar triple galvanization.
- B. Washers shall be provided by Contractor as needed by the plans.

PART 3 EXECUTION

3.01 Bolts

- A. Use bolts of the sizes shown in the Plans with square heads and nuts and screw threads that make close fits in the nuts.
- B. Upon completion of installation, check all for tightness.
- C. The cutting of bolts should be avoided. Should bolts require cutting, the bolt shall be cut using a virgin ceramic grinding disk and the cut shall have two coats applied of cold galvanizing paint.
- D. The use of carriage bolts shall be used where indicated on the plans.

END OF SECTION

SECTION 06 05 73

WOOD TREATMENT

PART 1 GENERAL

1.01 Summary

A. This section includes

1. Wood Treatment

B. Related Sections:

1. 06 10 00 – Rough Carpentry
2. 06 11 00 – Wood Framing
3. 06 15 00 – Wood Decking
4. 06 43 16 – Wood Railings
5. 06 73 00 – Composite Decking
6. 31 62 19 – Timber Piles

1.02 Codes and Standards

- A. American Wood Protection Association (AWPA)
- B. American Wood Council (AWC)
- C. 2024 National Design Specification (NDS) for Wood Construction

1.03 Quality Control

- A. All wood shall be protected, or pressure treated in accordance with AWPA requirements.

PART 2 PRODUCTS

2.01 Materials

A. Bents and Stringers

1. All new bents and stringers must adhere to the American Wood Council's use category UC4B and be treated with 0.60 pounds per cubic foot (pcf) of Chromated Copper Arsenate (CCA) (Unless noted otherwise).

B. Guards and Decking

1. Any guards and decking, excluding high-density polyethylene (HDPE) decking, must be treated with 0.60 PCF Alkaline Copper Quaternary (ACQ), or 0.31 PCF Copper Azole (CA), or 0.23 PCF CA-C or Micronized Copper Azole (MCA). Any guards and decking, where decking is not HDPE, shall be treated with 0.60 PCF ACQ or 0.31 PCF CA or 0.23 PCF Wolman © E (μ CA-C) or MCA.

C. AWPA Category and Specific Wood Treatments

1. Timber piles exposed to marine waters shall undergo UC5C dual treatment.
2. Timber piles that are upland, or exposed to freshwater shall undergo UC5C with 2.50 PCF retention of CCA, as indicated on the plans.

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 06 06 10
SCHEDULES FOR ROUGH CARPENTRY

[SEE CONTRACT DOCUMENTS]

END OF SECTION

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 GENERAL

1.1 Summary

A. Section Includes:

1. Preservative treatment.
2. Fasteners

1.2 Definitions

A. The following definitions apply to this section as they pertain to rough carpentry items.

1. Rough Carpentry: Carpentry work not specified in other Sections and not used as exposed work.

1.3 Description

A. Adhesives, and related items, including accessories furnished and installed as specified herein.

1.4 Submittals

A. Product Data: Submit for carpentry in accordance with Section 013300, Submittals.

1. Submit for sheathing and miscellaneous products specified.

B. Certification:

1. Submit letter certifying that lumber is kiln-dried to 15 - 19 percent moisture content, well-seasoned, grade marked, trademarked and free from warp.
2. Submit letter from treatment plant certifying that chemicals and process used and net amount of salts retained are in conformance with specified standards

1.5 Quality Assurance

A. Lumber Standard:

1. Comply with U.S. Dept. of Commerce Product Standard PS 20, including moisture content and actual sizes related to indicated nominal sizes.
2. Comply with lumber producer's inspection agency grading rules certified as conforming to American Softwood Lumber Standard PS 20-20 and local code standard.

- B. Provide Forest Stewardship Council (FSC) Certified Wood Products: Subject to compliance with specified requirements, acceptable manufacturers and products are listed at: www.fscus.org/certified-companies

1.6 Delivery, Storage, and Handling

- A. Inspect wood materials for conformance to specified grades, species, and treatment at time of delivery to Project site.
 - 1. Reject and return unsatisfactory wood materials.
- B. Provide facilities for handling and storage of materials to prevent damage to edges, ends and surfaces.
- C. Keep carpentry materials dry.
 - 1. Store lumber and plywood in stacks with provision for air circulation within stacks.
 - 2. Protect bottom of stacks against contact with damp surfaces. Protect exposed materials against weather.
 - 3. Stack materials minimum 12 inches off ground, or if on concrete slab-on-grade, minimum 1-1/2 inches, fully protected from weather.
 - 4. Provide for air circulation within and around stacks and under temporary coverings.
- D. Place spacers between each bundle of pressure treated materials treated with waterborne chemicals to provide air circulation.

1.7 Coordination

- A. Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit, show location of furring, nailers, blocking, grounds and similar supports to allow attachment of other work.
 - 1. Coordinate work directly with other subcontractors as necessary to insure proper fitting, joining or to clearances of other work. Obtain templates as required to insure proper fitting.

PART 2 PRODUCTS

2.1 Lumber

- A. (WD BLKG-1) Miscellaneous Lumber: Lumber for support or attachment of other construction, including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members.
 - 1. Moisture content of 19 percent maximum for lumber items not specified to have wood preservative treatment.
 - 2. Grade: No. 3 or standard grade.

2.2 Preservation Treatment: See Section 06 05 73

2.3 Fasteners: See Section 06 05 23

PART 3 EXECUTION

3.01 Factory Wood Treatment

- A. Shop pressure treat and deliver to site ready for installation, wood materials requiring UL fire rating or pressure impregnated preservatives.
- B. Provide UL approved identification on fire resistant treated materials.
 - 1. Deliver fire retardant treated materials cut to required sizes so as to eliminate necessity of field cutting.
- C. Ensure exposed materials requiring stain or paint finish do not exceed 15 percent moisture content before applying wood preservative treatment.

3.02 Site Treatment of Wood Materials

- A. Apply preservative treatment in accordance with manufacturer's printed instructions.
- B. Brush apply 2 coats of preservative treatment on wood in contact with cementitious materials. Treat site-sawn cuts.
- C. Allow preservative to dry prior to erecting members.
- D. Ensure exposed materials requiring stain or paint finish do not exceed 15 percent moisture content before applying wood preservative treatment.

END OF SECTION

SECTION 06 15 00

WOOD DECKING, LUMBER AND TIMBERS

PART 1 GENERAL

1.1 Summary

A. Provide labor, materials and equipment necessary to complete the work of this Section, including the following:

1. Wood decking, lumber, stringers, beams, and timbers for the following applications:
 - a. Decks.
 - b. Boardwalks

B. Related Work: The following items are not included in this Section and will be performed under the designated Sections.

1. Section 061000 – ROUGH CARPENTRY for other rough carpentry work.
2. Section 064316 – WOOD RAILINGS
3. Section 316219 – TIMBER PILES for timber pile work.

C. Reference Standards: Comply with applicable requirements of the following:

1. Allowable Design Values by Grade
2. ASTM D143 – Standard Test Methods for Small Clear Specimens of Timber.
3. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
4. American Wood Council
5. American Wood Protection Association
6. 2024 National Design Specification for Wood Construction

1.2 Submittals

A. Submittals: Submit under provisions of Division 01.

B. Product Literature: Contractor shall provide submittals for all engineered lumber products.

C. Verification Samples: For each type of decking, lumber and timbers.

D. Certificates of Compliance Technical: Submit documentation of the following.

1. Certificate of Compliance “Inspection”: A vendor certificate confirming product compliance with grade and quality requirements.
2. Certificate of Compliance “Technical”: A vendor certificate confirming product compliance with minimum specified Physical, Mechanical and Technical performance requirements as defined by the specification.
3. Certificate of Compliance Allowable Design Values.
4. Certificate of Compliance “International Building Code” with allowable design values and span tables signed by a licensed engineer.

5. MSDS (Material Safety Data Sheet) – Submit a Material Safety and Data Sheet for the wood products supplied on the project.
6. Grading Rules – Written Grading Rules and Definitions”.
7. Best Practices: ‘Best Practice Guide’ or other relevant installation guides.

1.3 Quality Assurance

- A. Manufacturer/Vendor Qualifications: Products covered under this Section shall be supplied by a single manufacturer/vendor unless otherwise specified with a minimum of fifteen years proven production or supply experience.
- B. Pre-installation Conference: Conduct conference by phone or on site to comply with requirements in Division 01.

1.4 Delivery, Storage, and Handling

- A. Protect materials during shipment, storage and construction against damage. If material is air dried, stickers of a minimum of 10mm shall be placed between each layer of boards when packed. If material is kiln dried, material shall be dense packed and wrapped.
- B. All units shall be individually strapped to wood pallets or blocking of a minimum thickness to allow the egress of lift forks using high strength strapping with a minimum of 4 straps per crate.
- C. Store a minimum of 6 inches off the ground in a dry location and cover with polyethylene to protect from contact with materials which would cause staining or discoloration.

PART 2 PRODUCTS

2.1 Materials

A. Lumber

1. Dimensional lumber shall be southern pine with the minimum nominal design values per American Wood Council’s National Design Specifications.

2.2 Wood Treatment: SEE SECTION 06 05 73 – WOOD TREATMENT

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to starting work inspect the substrate to ensure that it has been properly prepared to accept materials specified in this Section. Commencement of work shall imply acceptance of surfaces and or conditions.
 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Installation

- A. Install in accordance with manufacturer's instructions and approved submittals including the following:
 - 1. Manufacturers Best Practices.
 - 2. Install materials plumb, true to line, cut and fitted.
 - 3. Scribe and cope as required for accurate fit to adjacent construction.
 - 4. Use fasteners as indicated in Plans.
 - a. See Section 06 05 23 – Wood, Plastic, and Composite Fastenings
 - 5. Fasten tight to supports.

3.3 Cleaning and Protection

- A. Protect from damage during construction operations. Promptly repair any damaged surfaces. Remove and replace work which cannot be satisfactorily repaired.
- B. Clean using materials recommended by the manufacturer to remove stains, dirt and debris prior to final acceptance.

END OF SECTION

SECTION 06 43 16

WOOD RAILINGS

PART 1 GENERAL

1.01 Summary

A. Section Includes

1. Wood Railing

PART 2 PRODUCTS

2.01 Materials

A. Railings

1. All railings shall be made with like materials and shall be designed to match existing conditions, with the minimum design values per American Wood Council's National Design Specifications.

PART 3 EXECUTION

3.01 Installation

- ###### A. Install in accordance with manufacturer's instructions and approved submittals including the following:

1. Manufacturers Best Practices.
2. Install materials plumb, true to line, cut and fitted.
3. Scribe and cope as required for accurate fit to adjacent construction.
4. Use fasteners as indicated in Plans.
 - a. See Section 06 05 23 – Wood, Plastic, and Composite Fastenings
5. Fasten tight to supports.

3.02 Cleaning and Protection

- ###### A. Protect from damage during construction operations. Promptly repair any damaged surfaces. Remove and replace work which cannot be satisfactorily repaired.
- ###### B. Clean using materials recommended by the manufacturer to remove stains, dirt and debris prior to final acceptance.

END OF SECTION

06 43 16

SECTION 06 73 00
COMPOSITE DECKING

PART 1 GENERAL

1.01 Summary

A. Section includes:

1. Composite decking

B. Related Work: The following items are not included in this Section and will be performed under the designated Sections.

1. Section 06 15 00 – WOOD DECKING, LUMBER AND TIMBERS
2. Section 06 10 00 – ROUGH CARPENTRY for wood

1.02 Reference Standards:

A. Comply with applicable requirements of the following:

1. ASTM D2395 – Standard Test Methods for Specific Gravity of Wood and Wood-Based Materials
2. ASTM D7032 – Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stairs Treads, Guards, and Handrails.
3. ASTM G154 – Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials.

1.03 Submittals

A. Submittals: Submit under provisions of Division 01

B. Product Literature: Contractor shall provide submittal for all engineered composite products.

C. Verifications Samples for each type of decking

D. Certificates of Compliance “Inspection”.

1. Certificate of Compliance “Inspection”. A vendor certificate confirming product compliance with grade and quality requirements.
2. Certificate of Compliance “Technical”. A vendor certificate confirming product compliance with minimum specified Physical, Mechanical and Technical performance requirements as defined by the specimen.
3. Certificate of Compliance Allowable Design Values.
4. Certificate of Compliance “International Building Code” with allowable design values and span tables signed by a licensed engineer.
5. MSDS (Materials Safety Data Sheet) – Submit a Material Safety and Data Sheet for the composite products supplied on the project.

6. Best Practices: 'Best Practice Guide' or other relevant installation guides.

1.04 Quality Assurance

- A. Manufacturer/Vendor Qualifications: Products covered under this Section shall be supplied by a single manufacturer/vendor unless otherwise specified with a minimum of fifteen years proven production or supply experience.
- B. Pre-installation Conference: Conduct conference by phone or on site to comply with requirements in Division 01.

1.05 Delivery, Storage, and Handling

- A. Deliver, store and handle composite decking in accordance with manufacturer's instructions.
- B. Protect materials during shipment, storage and construction against damage.

PART 2 PRODUCTS

2.01 Fasteners

- A. Fasten composite decking to stringer per manufacturer's specifications.
- B. Use galvanized steel fasteners as per the Plans.

PART 3 EXECUTION

3.01 Examination

- A. Verify that conditions of work previously installed under other sections or contracts are acceptable for installation of composite decking in accordance with manufacturer's instructions and approved submittals.
 - 1. Notify Engineer of unacceptable conditions upon discovery.
 - 2. Do not proceed with preparation and installation until unacceptable conditions have been corrected.

3.02 Preparation

- A. Prepare substrate to receive composite decking in accordance with manufacturer's instructions, and approved submittals.

3.03 Installation

- A. Install composite decking in accordance with manufacturer's instructions, and approved submittals.

3.04 Cleaning

- A. Clean-up packaging, waste material, and construction debris daily during installation; legally dispose of in accordance with authorities having jurisdiction.
- B. Upon completion, remove surplus materials, remaining debris, tools and equipment.

3.05 Protection

- A. Protect installed products from damage during the subsequent construction until Final Inspection and acceptance by Owner.
- B. Repair damage to adjacent materials caused by installation of composite decking.

END OF SECTION

SECTION 31 10 00

SITE CLEARING

PART 1 GENERAL

1.01 Description of Work

- A. Installation of all Best Management Practices as shown in the project plans must be in place and inspected by the Owner or Owner's representative prior to initiating site clearing activities.
- B. Tree clearing should not be required. Wetland impacts must be kept minimal. The extent of site clearing shall be limited to clearing those trees and brush necessary to provide access to the construction site. All trees, which will not interfere with construction, shall be protected from damage. Cost to protect trees, shrubs and etc. is incidental to the project cost. No trees shall be removed without consent of Owner. Site clearing work includes, but is not limited to, the following:
 - 1. Protection of Existing Trees
 - 2. Removal of trees and other vegetation.
 - 3. Muck.
 - 4. Asphalt and other pavement surfaces
 - 5. Onsite Structures
 - 6. Other types of obstructions (direct or indirect) with the construction of the project. This is not limited to only conflicts shown on the plans.

1.02 Job Conditions:

- A. The Contractor shall provide protection of existing improvements:
 - 1. Provide protection necessary to prevent damage to existing improvements indicated to remain in place.
 - 2. Protect improvements on adjoining properties and on the Owner's property.
 - 3. Restore damaged improvements to their original condition, as acceptable to parties having jurisdiction.

1.03 Protection of Existing Trees and Vegetation:

- A. Protect existing trees and other vegetation indicated to remain in place against unnecessary cutting, breaking or skinning of roots, skinning and bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip lines, excess foot or vehicular traffic, or parking of vehicles within drip line.
- B. Provide temporary guards to protect trees and vegetation to be left standing as shown in the Contract Plans.

- C. Water trees and other vegetation to remain within the limits of the Contract work as required maintaining their health during the course of construction operations.
- D. Provide protection for roots over ½-inch diameter cut during construction operations. Coat the cut faces with emulsified asphalt, or other acceptable coating, formulated for use on damaged plant tissues. Temporarily cover exposed roots with wet burlap to prevent roots from drying out; cover with earth as soon as possible.

PART 2 PRODUCTS

Not Used

PART 3 SITE CLEARING

3.01 General

- A. The Contractor shall remove vegetation, improvements, or obstructions interfering with installation of new construction. Removal of any trees must be granted in writing by the Owner in advance.
- B. The Contractor shall carefully, and cleanly cut roots and branches of trees indicated to be left standing, where such roots and branches obstruct new construction.
- C. Refer to the Best Management Practices Plan in the Plan Set for more detailed instructions.

3.02 Removal of Improvements

- A. The Contractor shall remove above-grade and below-grade improvements necessary to permit construction, and other work as indicated.

3.03 Disposal of Waste Materials

- A. Burning on Owner's Property: Burning is not permitted on the Owner's property
- B. Removal from Owner's Property: The Contractor shall remove waste materials and unsuitable and excess topsoil from the Owner's property and dispose of legally.
- C. All items removed from the project site are the property of the Owner. If the Owner chooses not to exercise their right of ownership for any or all items, the Contractor will be responsible for removing the item(s) from the project site and disposing of it in accordance with all applicable local, State and federal regulations at the expense of the Contractor.

END OF SECTION

SECTION 31 23 00

EXCAVATION AND FILL

PART 1 GENERAL

1.0 Scope

- A. This Section includes excavation for structures, removal and disposal of excavated materials, backfilling, backfill materials and compaction.

1.1 Basis of Measurement and Payment

- A. Work under this section shall be considered as incidental to construction and no additional payment shall be made for the work or materials specified herein.

1.2 Submittals

- A. The Contractor shall provide the Engineer with 2 certified copies of the test results of the compaction of the backfill as specified herein. The testing for compaction and the certification of the test results shall be performed by a testing laboratory approved by the Engineer.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 Excavation

- A. Excavation shall include the excavating and disposing of all materials encountered, regardless of nature, the supporting and protecting of all structures and/or utilities encountered above and below the ground surface, and the removal of water from the construction site. Excavation shall also include the removal of existing structures, as shown on the Plans or as directed by the Engineer.
- B. The Contractor shall keep the limits of his excavation operations within a reasonable close conformity with the location and grade of each structure.
- C. The excavated materials shall be temporarily stored in a manner that will not cause damage to trees, shrubs, fences, improvements, utilities, private property or traffic. The excavated materials shall not be placed at such locations that will endanger the banks of the excavation by imposing loads thereon.
- D. Excavated material, determined by the Engineer as suitable for backfill may be used. All excess materials shall be disposed by the Contractor, at his expense.

- E. All unsound material underlying proposed structures shall be removed and replaced with material approved by the Engineer, or in layers not exceeding 6 inches in depth. Each layer shall be compacted to 98 percent density per AASHTO T-180 unless indicated otherwise on the Plans, or within these specifications.

3.2 Sheeting, Shoring and Bracing

- A. The Contractor shall furnish, place and maintain at all times such sheeting, shoring and bracing of the excavated area as may be required for safety of the workmen and for protection of the new Work or adjacent structures, including pavement, curbs, sidewalks, pipelines and conduits next to, or crossing the excavated area, and for the protection and safety of pedestrian and vehicular traffic.
- B. Sheeting, shoring and bracing shall conform to current federal or state regulations for safety.
- C. The furnishing, placing, maintaining and removing of sheeting, shoring and bracing materials shall be at the Contractor's expense.
- D. The Contractor shall not remove the sheeting, shoring or bracing until the structure has obtained sufficient strength to support the external loads. The sheeting, shoring and bracing material shall not come in contact with the structure, but shall be installed so that no concentrated loads or horizontal thrusts are transmitted to the structure.

3.3 Backfill

- A. Backfill material shall be placed only after the new Work and backfill material have been inspected by the Engineer.
- B. Backfill shall not be placed against any portion of the new Work until the required curing, surface finishing and waterproofing of such portions have been completed. Backfill, which will place an unequalized horizontal loading on the new Work shall not be placed until the concrete has attained at least 70 percent of its design strength. To equalize horizontal loadings, the required backfill around the new Work shall be placed on opposite sides at the same time.
- C. Granular material shall be used for backfilling the new Work unless otherwise indicated on the Plans or within these specifications.
- D. All spaces excavated and not occupied by the new Work or by the specified backfill material, shall be backfilled with suitable material from the excavation.
- E. Large stones, boulders, broken rocks, concrete, and masonry shall not be used in the backfill.
- F. The backfill shall be carried up to the surface of the adjacent ground or to the elevation of the proposed earth grade, and its top surface shall be neatly graded. Fills around all new Work shall be trimmed to the lines shown on the Plans or as directed by the Engineer.

3.4 Compacting Backfill

- A. All backfill behind and around the new Work shall be placed in layers, not more than 9 inches in depth, and shall be compacted to not less than 98 percent density per AASHTO T-180.

- B. Areas where the density does not affect the construction, as determined by the Engineer, shall be compacted to not less than 90 percent density per AASHTO T-180.

3.5 Cleanup

- A. Immediately following the placing and compacting of the backfill, the excess material shall be removed and disposed of by the Contractor, at his expense.
- B. The construction area shall be graded and left in a neat, workmanlike condition.

3.6 Testing

- A. During the course of the Work, the Engineer may require testing for compaction or density on each lift of the backfill below structures at a minimum of 3 per structure. A representative of the Engineer shall perform the taking of samples and the testing required. The cost for testing and sampling shall be at the expense of the Contractor. Costs associated with any re-testing required will be at the expense of the Contractor.

3.7 Defective Work

- A. Any portion of the backfill which is deficient in the specified density shall be corrected by the methods meeting the approval of the Engineer. Any extra testing or sampling required because of apparent deficiencies shall be at the Contractor's expense

END OF SECTION

SECTION 31 25 00

EROSION AND SEDIMENTATION CONTROL

PART 1 GENERAL

1.01 Section Includes

Designing, providing, maintaining, removing temporary erosion and sedimentation controls.

1.02 Related Sections

- A. Section 312300 – Excavation and Fill

1.03 References

- A. Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction and Roadway and Traffic Design Standards, latest editions:
 - 1. Section No. 104 – Prevention, Control, and Abatement of Erosion and Water Pollution

1.04 Owner's Instructions / Sequencing

- A. Owner has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, trenching, borrow and embankment operations. Owner also has authority to direct Contractor to provide immediate permanent or temporary erosion and sediment control measures.
- B. Contractor shall respond to erosion and sediment control maintenance requirements or implement additional measures to control erosion ordered by Owner or governing authorities within 48 hours or sooner if required at no additional cost to the Owner.
- C. Contractor will be required to incorporate permanent erosion control features into project at earliest practical time to minimize need for temporary controls.

PART 2 PRODUCTS

2.01 Erosion Control

- A. Seeding and Mulching
- B. Sodding
- C. Hydro-seeding

2.02 Sedimentation Control

- A. Silt Fence

B. Hay Bales

PART 3 EXECUTION

3.01 Erosion Control

- A. Maintain temporary erosion control systems as directed by Owner or governing authorities to control erosion and siltation during life of contract.
- B. Permanently grass cut slopes as excavation proceeds to extent considered desirable and practical.
- C. Grass all disturbed areas within 7 days of initial disturbance. Temporary grassing can be seed and mulch at all other locations unless otherwise indicated in the drawings or specifications.
- D. Dirt roads are to be stabilized and compacted within 7 days of the completion of trenching and grading activities.

3.02 Sedimentation Control

- A. Install prior to construction.
- B. Inspect every two weeks during construction.
- C. Remove any sediment build-up.
- D. Repair and reinstall any damaged or missing sediment control measures. Install additional measures if inspection reveals additional sedimentation control is necessary.

END OF SECTION

SECTION 31 62 19

TIMBER PILES

PART 1 GENERAL

1.01 Scope

- A. The work specified in this Section consists of the replacement and installation of timber piles in accordance with these specifications and in conformity with the lines, grades, dimensions, and notes shown on the plans.

PART 2 PRODUCTS

2.01 Material

A. Timber

1. Timber piles shall be southern pine with the minimum nominal design values per American Wood Council's National Design Specifications.
2. Timber piles shall be 10 inches in diameter, measured at 5 feet from the butt-end or as indicated on the plans.

2.2 Wood Treatment: SEE SECTION 06 05 73 – WOOD TREATMENT

PART 3 EXECUTION

3.01 Installation

- A. When pre-drilling piles, permanent and test piles may be predrilled up to 10 feet or 20% of the embedment length. For the 10" piles called for on this project, the predrilled hole shall not exceed the pile diameter. If obstructions or rock is encountered, the predrilled hole shall not exceed a diameter of 12" through the obstruction. Clean sand shall be backfilled where obstructions must be drilled through. (FDOT 455-5.1.1)
- B. Piles shall have embedment to practical refusal as defined in as 20 blows per inch or less than one inch penetration, with the hammer operating at the highest setting determined by the engineer and less than ¼ inches rebound per blow then pile shall be cut to required height.
- C. All bolts, fasteners, brackets, and straps shall be Z-max, G-185, or similar triple galvanization, unless noted otherwise, bolt end shall extend pass the galvanized nut by a minimum of three (3) threads.

3.02 Testing

- A. Field testing shall be at the contractor's expense. In addition, all retesting shall be done at the contractor's expense.
- B. Test piles shall be completed within the area of the structure's foundation.

- C. The test pile shall match the indicated type and shall be installed using suitable methods associated with the piling type.
- D. Test piles shall incorporate appropriate monitoring devices to measure parameters such as load, displacement, and soil pressures during pile driving or loading tests.
- E. Load tests, including static load, dynamic load, and pile integrity tests, are required to evaluate pile capacity and performance.
- F. Prepare a comprehensive report documenting test pile installation, instrumentation setup, load test procedures, and results. Present findings to the engineer of record for review and approval before installing additional pilings.

END OF SECTION