



Pine Meadows Conservation Area  
Boat Ramp & Kayak Launch  
Lake County, Florida

**Project Manual**

**April 2022**

Prepared for:

**Lake County  
Office of Parks & Trails  
2401 Woodlea Road  
Tavares, FL 32778**

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## PINE MEADOWS BOAT RAMP & KAYAK LAUNCH

### SECTION 01 11 00 SUMMARY OF WORK

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION OF WORK

- A. Work included:
  - 1. Construction of Pine Meadows boat ramp and kayak launch, located on Pine Meadows Golf Course Road in Lake County, Florida, including, but not limited to, concrete drive, concrete boat ramp, aluminum boardwalk and kayak launch and dry restroom.
  - 2. Use of premises.
- B. Related work: Work affecting this Section includes, but is not necessarily limited to General Conditions and Special Conditions.

##### 1.2 WORK COVERED BY THE CONTRACT DOCUMENTS

- A. Work under this contract comprises furnishing the labor, material, equipment, tools, services and other incidentals required to construct and make complete for use the construction of Pine Meadows boat ramp and kayak launch. The construction consists generally of site preparation, concrete drive and boat ramps, aluminum boardwalk & kayak launch and dry restroom.
- B. This Scope of Work is not to be limited by this description and will include additional and incidental related work as required and more fully set forth in the contract Documents.
- C. Omission of a specific item or component part of a system obviously necessary for the proper functioning of the system shall not relieve the Contractor of the responsibility of furnishing the item as part of the work at no additional cost to the Owner.
- D. The Contractor shall perform the Work complete, in place, and ready for continuous service, and shall include repairs, testing, permits, cleanup, replacements and restoration required as a result of damages caused during this construction.
- E. The Contractor shall comply with all Federal, State and local laws, rules and regulations which are applicable to this Project.

##### 1.3 CONTRACT METHOD

- A. Construct the work under a lump sum contract price.
- B. Relations and responsibilities between General Contractor, subcontractors, Landscape Architect and Owner shall be as defined in General Conditions of the Contract.

##### 1.4 OCCUPANCY OF THE SITE

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- A. Conduct operations as to ensure the least inconvenience to the general public.
- B. The Contractor shall assume full responsibility for the protection and safekeeping of products and materials stored at the job site. If additional storage or work areas are required, they shall be obtained by the Contractor at no additional cost to the Owner.

### 1.5 WORK SEQUENCE

- A. The Contractor shall establish his work sequence based on the use of crews to facilitate completion of construction and testing within the allotted Contract Time.

### PART 2 - PRODUCTS

2.1 (Not Applicable)

### PART 3 - EXECUTION

3.1 (Not Applicable)

**END OF SECTION 01 11 00**

## **SECTION 01 20 00 PRE-CONSTRUCTION CONFERENCE**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION OF WORK**

- A. Work Included: To help clarify construction contract administration procedures, the Owner will conduct a Pre-construction Conference prior to start of the Work. Provide attendance by the designated personnel.
- 2. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections of all Divisions of these Specifications.

#### **1.2 QUALITY ASSURANCE**

- A. For those persons designated by the Contractor, his sub-contractors, and suppliers to attend the Pre-construction Conference, provide required authority to commit the entities they represent to solutions agreed upon in the Conference.

#### **1.3 SUBMITTALS**

- A. To the maximum extent practicable, advise the Owner at least 24 hours in advance of the Conference as to items to be added to the agenda.
- B. The Contractor will compile minutes of the Conference, and will provide a digital copies (PDF) of the minutes to the Owner and Design Team. The Contractor may distribute minutes to their sub-contractors as he wishes.

#### **1.4 PRE-CONSTRUCTION CONFERENCE**

- A. The Conference will be scheduled to be held within 10 days after the Owner has issued the Notice to Proceed, but prior to actual start of the Work.
- 2. Attendance
  - 1. Provide attendance by authorized representatives of the Contractor and major subcontractors.
  - 2. The Owner will advise other interested parties, including the Design Team, and request their attendance.
- 3. Minimum Agenda: Date will be distributed and discussed on:
  - 1. Organizational arrangement of Contractor's forces and personnel, and those subcontractors, materials suppliers, the Owner and the Design Team;
  - 2. Channels and procedures for communication;
  - 3. Construction schedule, including sequence of critical work;

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4. Contract Documents, including distribution of required copies of drawings and revisions;
5. Processing of Shop Drawings and other data submitted to the Owner for review;
6. Processing of field decisions and Change Orders;
7. Rules and regulations governing performance of the Work.

## PART 2 - PRODUCTS

2.1 (Not Applicable)

## PART 3 - EXECUTION

3.1 (Not Applicable)

**END OF SECTION 01 20 00**



## **SECTION 01 29 76 APPLICATION FOR PAYMENT**

### **PART 1 - GENERAL**

#### **1.1 WORK INCLUDED**

- A. Work Included: Comply with procedures described in this section when applying for progress payments and final payment under the Contract.

#### **1.2 RELATED WORK**

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and sections in Division 01 of these Specifications.
- B. The Owner will file the Notices of Commencement and deliver a copy to the Contractor. When a subcontractor, vendor or supplier requests a copy of the Contractor's Payment or Performance bond, the Contractor shall handle these requests.
- C. Schedule of Values
- D. The Contract sum and the schedule for payments are described in the Construction Contract.
- E. Payment upon Substantial Completion and Completion of the work are described in the General Conditions.
- F. The Owner's approval of applications for progress payment and final payment may be contingent upon the Owner's approval of status of Project Record Documents as described in Section 01 78 38 of these specifications.
- G. Contract Closeout
- H. Project Record Documents

#### **1.3 QUALITY ASSURANCE**

- A. Prior to start of construction, secure the Owner's approval of the schedule of values required to be submitted within General Conditions.
- B. During progress of the Work, modify the schedule of values as approved by the Owner to reflect changes in the Contract Sum due to Change Orders or other modifications of the Contract.
- C. Base requests for payment on the approved Schedule of Values.

#### **1.4 SUBMITTALS**

- A. Application Form: Unless otherwise directed by the Owner:
  - 1. Submit applications typed on forms acceptable to the Owner, with itemized

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data typed on 8-1/2 inch x 11 inch or 8-1/2 inch x 14 inch white paper continuation sheets.

2. Provide itemized data on continuation sheet of format, schedules, line items and values: Those of the Schedule of Values approved by the Owner.
3. Fill in summary of dollar value to agree with respective totals indicated on continuation sheets.
4. Sign and notarize the Application and Certificate for payment.
5. Submit the original of the Application and Certificate for Payment and continuation sheets and one digital copy (PDF) to the Owner.
6. When the Owner requires substantiating data, Contractor shall submit suitable information, with a cover letter identifying:
  1. Project.
  2. Application number and date.
  3. Detailed list of enclosures.
  4. For stored products:
    - a. Item number and identification as shown on application.
    - b. Description of specific material.
7. The Owner's Representative will review the formal application and, when approved, will sign the Application and Certificate for Payment, will make required copies, and will distribute as follows:
  1. One copy to Contractor;
  2. One copies to the Design Team;
  3. When the Owner finds Application properly completed and correct, the Owner will process Certificate for Payment
8. List the name and address of all Subcontractors and Suppliers who have performed work or provided supplies or material for each application.
9. Submit certified payroll sheets for Contractor's forces and all Subcontractors for the month preceding the submitted application.
10. Submit revised monthly progress schedules with each month's Application for Payment, including cash flow projections.
11. The Contractor is to maintain an updated set of drawings to be used as record drawings in accordance with the Contract Documents. AS A PREREQUISITE FOR PAYMENT OF MONTHLY PROGRESS PAYMENTS, THE

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CONTRACTOR IS TO EXHIBIT THE UPDATED RECORD DRAWINGS FOR REVIEW BY THE OWNER.

12. Lien Release forms (Partial and Final) must be executed and delivered to Owner before the payment check is given to the Contractor.
13. Prior to issuance of the final payment check, the Owner must also receive a final release of lien for each subcontractor, vendor or supplier who has filed a Notice to the Owner. The Contractor must deliver these to the Owner.
14. The Owner will file the Notices of Commencement, record the payment bond copy to the Contractor to be posted on the job site.

### B. Continuation Sheets

1. Fill in total list of all scheduled component items of work, within items number and scheduled dollar value for each item.
2. Fill in dollar value in each column for each scheduled line item when work has been performed or products stored.
  - a. Round off values to nearest dollar, or as specified for schedule of values.
3. List each Change Order executed prior to date of submission, at the end of the continuation sheets.
  - a. List by Change Order Number, and description, as for and original component item of work.
4. To receive approval for payment on component material stored on site, submit copies of the original invoices with the Application for Payment.
5. As provided for in the "Application and Certificate for Progress Payment" form, the Contractor shall certify, for each current pay request, that all previous progress payments received from the Owner, under this Contract, have been applied by the Contractor to discharge in full all obligations of the Contractor in connection with Work covered by prior Applications for Payment, and all liens, claims, security interest and encumbrances. Contractor shall attach to each Application for Payment like affidavits by all Subcontractors.

## PART 2 - PRODUCTS

2.1 (Not Applicable)

## PART 3 - EXECUTION

3.1 (Not Applicable)

**END OF SECTION 01 29 76**

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## **SECTION 01 31 19 PROJECT MEETINGS**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

- A. Work Included: To enable orderly review during progress of the Work, and to provide for systematic discussion of problems, the Owner's Representative will conduct project meetings throughout the construction period.
- B. Related Work:
  - 1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in all divisions of these Specifications.
  - 2. The Contractor's relations with his subcontractors and materials suppliers, and discussions relative thereto, are the Contractor's responsibility and normally are not part of project meetings content.

#### **1.2 QUALITY ASSURANCE**

- A. For those persons designated by the Contractor to attend and participate in project meetings, provide required authority to commit the Contractor to solutions agreed upon in the project meetings.

#### **1.3 SUBMITTALS**

- A. Agenda Items: To the maximum extent practicable, advise the Owner's Representative at least 24 hours in advance of project meetings regarding items to be added to the agenda.
- B. Minutes:
  - 1. The Owner's Representative will compile minutes of each project meeting, and will provide a digital copy (PDF) to the Contractor and Design Team.
  - 2. Recipients of copies may make and distribute such other copies as they wish.

### **PART 2 - PRODUCTS**

- A. (Not Applicable)

### **PART 3 - EXECUTION**

#### **3.1 MEETING SCHEDULE**

- A. Coordinate as necessary to establish mutually acceptable schedule for meetings.

#### **3.2 MEETING LOCATION**

## **PROJECT MEETINGS**

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- A. To the maximum extent practicable, meetings will be held at the job site.

### 3.3 PROJECT MEETINGS

- A. Attendance:

1. To the maximum extent practicable, assign the same person or persons to represent the Contractor at project meetings throughout progress of the Work.
2. Subcontractors, materials suppliers, and others may be invited to attend those project meetings in which their aspect of the Work is involved.

- B. The format and order of business shall be as follows:

1. Report from Contractor on construction status, items or areas being worked on, and work planned to be started. Report on schedule status. This needs to include number of weeks ahead or behind, and current projected-scheduled Owner occupancy date.
2. Report from Owner's Representative on construction administration status relative to onsite Owner's Representative observations, deficiencies, problems and shop drawing and change proposal date.
3. Minutes of previous meeting.
4. Old Business.
5. New Business.

- C. Minimum Agenda:

1. Review, revise as necessary, and approve minutes of previous meetings.
2. Review progress of the Work since last meeting, including status of submittals for approval.
3. Identify problems which impede planned progress.
4. Develop corrective measures and procedures to regain planned schedule.
5. Complete other current business.

- D. The minutes must reflect the above, and include specific information relative to the schedule.

1. Weeks ahead or behind.
2. Current projected - Scheduled Owner occupancy date, or dates.

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### E. Revisions to Minutes:

1. Unless published minutes are challenged in writing prior to the next regularly scheduled progress meeting, they will be accepted as properly stating the activities and decisions of the meeting.
2. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.
3. Challenge to minutes shall be settled as priority portion of 'old businesses at the next regularly scheduled meeting.

**END OF SECTION 01 31 19**

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## **SECTION 01 32 16 CONSTRUCTION SCHEDULES**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

- A. Work included: To assure adequate planning and execution of the work so that the work is completed within the number of calendar days allowed in the Contract, and to assist the Owner's Representative in appraising the reasonableness of the proposed schedule and in evaluating progress of the work, prepare and maintain the schedules and reports described in this Section.
- B. Related Work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in all divisions of these Specifications.
- C. Definitions: "Day," as used throughout the Contract unless otherwise stated, means "calendar day".

#### **1.2 QUALITY ASSURANCE**

- A. Employ a scheduler who is thoroughly trained and experienced in compiling construction schedule data, and in preparing and issuing periodic reports as required below.
- B. Perform data preparation, analysis, charting, and updating in accordance with standards approved by the Owner's Representative.
- C. Reliance upon the approved scheduler:
  - 1. The construction schedule as approved by the Owner's Representative will be an integral part of the contract and will establish interim completion dates for the various activities under the Contract.
  - 2. Should any activity not be completed within 15 days after the stated scheduled date, the Owner shall have the right to require the Contractor to expedite completion of the activity by whatever means the Owner deems appropriate and necessary, without additional compensation to the Contractor.
  - 3. Should any activity be 30 days or more behind schedule, the Owner shall have the right to perform the activity or have the activity performed by whatever method the Owner deems appropriate.
  - 4. Costs incurred by the Owner and by the Design Team in connection with expediting construction activity under this Activity shall be reimbursed by the Contractor.
  - 5. It is expressly understood and agreed that failure by the Owner to exercise the option either to order the Contractor to expedite an activity or to expedite the activity by other means shall not be considered to set a precedent for

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any other activities.

### 1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01 31 19.
- B. Preliminary Analysis: Within ten calendar days after the Contractor has received the executed contract, submit one reproducible copy and four prints of a preliminary construction schedule prepared in accordance with Part 3 of this Section.
- C. Construction Schedule: Within 20 calendar days after the Contractor has received the executed contract, a conference will be held to review the project schedule.
- D. Periodic Reports: on the first working day of each month following the submittal described in Paragraph 1.3-C above, submit four prints of the construction schedule updated as described in Part 3 of this Section.

## PART 2 - PRODUCTS

### 2.1 CONSTRUCTION ANALYSIS

- A. Graphically show by bar-chart the order and interdependence of all activities necessary to complete the Work and the sequence in which each activity is to be accomplished, as planned by the Contractor and his project field superintendent in coordination with all subcontractors whose work is shown on the diagram.
- B. Include, but do not necessarily limit indicated activities to:
  - 1. Submit application and procure Building Permit;
  - 2. Project mobilization;
  - 3. Submittal and approval of Shop Drawings and Samples;
  - 4. Procurement of equipment, and critical materials;
  - 5. Fabrication of special material and equipment, and its installation and testing;
  - 6. Schedule Owner Inspection;
  - 7. Owner 40% Inspection;
  - 8. Owner 80% Inspection,
  - 9. Substantial Completion Inspection;
  - 10. Final Inspection;
  - 11. Final Inspections of Local Authority;
  - 12. Owner approval to occupy;
  - 13. Final Testing;
  - 14. Local Authority Certificate of Occupancy;
  - 15. All activities by the Resident Project Representative that effect progress, required dates for completion, or both, for all and each part of the Work.
  - 16. All other activities that effect progress required dates for completion for all and each part of the Work.

## PART 3 - EXECUTION

### 3.1 PRELIMINARY ANALYSIS

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### A. Contents:

1. Show all activities of the Contractor under this Work for the period between receipt of Notice to Proceed and submittal of construction schedule required under Paragraph 1.3-B above;
2. Show the Contractor's general approach to remainder of the Work;
3. Show cost of all activities scheduled for performance before submittal and approval of the construction schedule.

### B. Submit in accordance with Paragraph 1.3-B above.

## 3.2 CONSTRUCTION SCHEDULE

- ### A.
- As soon as practicable after receipt of Notice to Proceed, complete the construction analysis in preliminary form, meet with the Owner's Representative, review contents of the proposed construction schedule, and make all revisions agreed upon.

## 3.3 PERIOD REPORTS

### A. Update the approved construction schedule.

1. Indicate "actual" progress in percent completion for each activity;
2. Provide written narrative summary of revisions causing delay in the program, and an explanation of corrective actions taken or proposed.

## 3.4 REVISIONS

- ### A.
- Make only those revisions to approved construction schedule as are approved in advance by the Owner's Representative.

**END OF SECTION 01 32 16**

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## **SECTION 01 33 00 PROJECT SUBMITTALS**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

- A. Work Included: Submit Shop Drawings, Product Data and Samples as required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.
- B. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in all divisions of these Specifications.
  - 2. Individual requirements for submittals also may be described in pertinent Sections of these Specifications.
  - 3. Requirements for Substitutions shall be described in Section 01 61 00, Product Substitutions.
- C. Work Not Included:
  - 1. Un-required submittals will not be reviewed by the Design Team or the Owner's Project Representative.
  - 2. The Contractor may require his subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Design Team or the Owners Project Representative.

#### **1.2 QUALITY ASSURANCE**

- A. Coordination of Submittals:
  - 1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
  - 2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
  - 3. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.

#### **1.3 SUBMITTALS**

- A. Make submittals of Shop Drawings, samples, substitution requests, and other items in accordance with the provisions of this Section.

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### PART 2 - PRODUCTS

#### 2.1 SHOP DRAWINGS

- A. Scale and Measurements: Make Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the Work.
- B. Types of Prints Required:
  - 1. Submit Shop Drawings in digital form (PDF) of each sheet.
- C. Review comments of the Design Team or the Owners Project Representative will be shown on the PDF when they are returned to the Contractor. The Contractor may make and distribute such copies as are required for his purposes.

#### 2.2 MANUFACTURERS LITERATURE

- A. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly show which portions of the contents is being submitted for review.
- B. Submit the one digital copy (PDF) that are required, plus one original copy to be retained by the Owner.

#### 2.3 SAMPLES

- A. Provide sample or samples identical to the precise article proposed to be provided. Identify as described under "Identification of Submittals" below.
- B. Number of Samples Required:
  - 1. Unless otherwise specified, submit Samples in the quantity which is required to be returned, plus one which will be retained by the Owners Project Representative.
  - 2. By prearrangement in specific cases, a single sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon by the Owners Project Representative.

#### 2.4 COLORS AND PATTERNS

- A. Unless the precise color and pattern is specifically called out in the Contract Documents, and whenever a choice of color or pattern is available in the specified products, submit accurate color and pattern charts to the Owners Project Representative for selection.

### PART 3 - EXECUTION

#### 3.1 IDENTIFICATIONS OF SUBMITTALS

- A. Consecutively Number All Submittals:

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1. When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new transmittal number.
2. On re-submittals, cite the original submittal number for reference.
- B. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.
- C. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included and an area for submittal review stamps.
- D. Maintain an accurate submittal log for the duration of the Work, showing current status of all submittals at all times. Make the submittal log available to the Owners Project Representative for his review upon request.

### 3.2 GROUPING OF SUBMITTALS

- A. Unless otherwise specified, make submittals in groups containing all associated items to assure that information is available for checking each item when it is received.
  1. Partial submittals may be rejected as not complying with the provisions of the Contract.
  2. The Contractor may be held liable for delays so occasioned.

### 3.3 TIMING OF SUBMITTALS

- A. Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery.
- B. In scheduling, allow at least ten working days for review by the Owners Project Representative following his receipt of the submittal.

### 3.4 PROJECT REVIEW

- A. Review by the Owners Project Representative does not relieve the Contractor from responsibility for errors which may exist in the submitted data.
- B. Revisions:
  1. Make revisions required by the Owners Project Representative.
  2. Make only those revisions directed or approved by the Owners Project Representative.

**END OF SECTION OF 01 33 00**

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## **SECTION 01 49 50 CONTRACTOR'S USE OF THE PREMISES**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION OF WORK**

- A. Work included: This Section applies to situations in which the General Contractor or his representatives, including, but not necessarily limited to suppliers, subcontractors employees and field engineers enter, have access to and conduct themselves on the Owner's property.
- B. Related work: Work affecting this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions and all Divisions of these Specifications.

#### **1.2 CONTRACTOR'S OFFICE**

- A. The General Contractor is required to establish a contractor's project office on site during the duration of the construction of the project. The General Contractor shall assure that the project superintendent or his appointed representative is on site at all times so he or a responsible representative of his organization may be reached at any time while work is in progress. The General Contractor shall also provide temporary restroom facilities on site during the duration of the construction of the project.
- B. The project superintendent or his appointed representative shall be on site during all normal working hours and whenever the General Contractor's personnel or any Subcontractor's personnel are working after normal working hours or on weekends.

#### **1.3 USE OF PUBLIC STREETS**

- A. The use of Public streets shall be such as to provide minimum of inconvenience to the public and to other traffic. Any earth or other excavated material spilled from trucks shall be removed immediately by the General Contractor and the roadway cleaned to the satisfaction of the Owner.

#### **1.4 CARE OF FACILITIES**

- A. The General Contractor shall be fully responsible for maintaining in good condition all existing facilities.

#### **1.5 OBSTRUCTIONS**

- A. All water pipes, storm drains, force mains, gas or other pipe, telephone or power cables or conduits, curbs, sidewalks and all other obstructions, whether or not shown, shall be temporarily removed from, or supported across utility line excavations. Where it is necessary to temporarily interrupt house, business services or the Owners services, the General Contractor shall notify the Owner, both before the interruption and again immediately before service is resumed. Before disconnecting any pipes, conduits or cables the General Contractor shall

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obtain permission from their Owner, or make suitable arrangements for their disconnection by their owner. The General Contractor shall be responsible for any damage to any such pipes, conduits, or cables and shall restore them to service promptly as soon as the work has progressed past the point involved. Approximate locations of water, sanitary, drainage, power and telephone installations along the route of the new pipelines or in the vicinity of new work must be verified in the field by the General Contractor. The General Contractor shall uncover these pipes, ducts, cables etc., carefully, by hand, prior to installing new utility lines. Any discrepancies or differences found shall be brought to the attention of the Owner in order that the necessary changes may be made to permit installation of new pipe. These conditions are supplemental to the General requirements elsewhere in these specifications.

### 1.7 PLANNED DISRUPTIONS OR SERVICE OUTAGES

- A. Prior to the shutting off, disruption, or otherwise modifying the following existing services, the General Contractor must request authorization in writing from Owner and local governing body if required.

Electrical Circuits and Subfeeders  
Water  
Sewer - Sanitary  
Fire Water  
Telephone  
Other services not noted, etc.

- B. All contractors, subcontractors or vendors are required to get the approval of the Owner before taking any of the actions noted below, to the systems noted.

1. Actions:

- a. Shutting off, turning on, tripping, (valves, circuit breakers, disconnect switches or other operation devices.).
- b. Connecting to or disconnecting from.

2. Systems:

- a. Electrical Power and Lighting Panels, Switchboards, Transfer Switches, Motor Starters, communication & telephone.
- b. Gas Systems
- c. Water, Sanitary Lines, and other Piping Systems.

- C. Requests for service interruptions must state type of service to be interrupted, areas to be affected, duration of interruption, and the name of the person (on-site) who will supervise and is responsible for the project.

### 1.8 DAMAGE TO EXISTING STRUCTURES AND UTILITIES

- A. The General Contractor shall be responsible for and make good all damage to the pavement beyond the limits of the contract, buildings, telephone or other cables,

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water pipes, sanitary pipes, or other structures which may be encountered, whether or not shown on the drawings.

- B. Information shown on the Drawings as to the location of existing utilities has been prepared from the most reliable data made available to the Design Team by the Owner. This information is not guaranteed, however and it shall be this General Contractor's responsibility to determine the location, character and depth of any existing utilities. He shall assist the utility companies, by every means possible to determine said locations. Extreme caution shall be exercised to eliminate any possibility of any damage to utilities resulting from his activities.

### 1.9 QUALITY ASSURANCE

- A. Promptly upon award of the Contract, notify all pertinent personnel regarding requirements of this Section.
- B. Require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this section.

### 1.10 RECORDS

- A. Maintain an accurate record of the names and Identification of all persons entering upon the Owner's property in connection with the Work of this Contract Including times of entering and leaving.

### 1.11 SAFETY

- A. Contractors shall adhere to applicable OSHA regulations (Of special concern is providing appropriate personal protective equipment, adequate fire suppression equipment, properly installed and maintained temporary wiring and adequate scaffolding).
- B. Contractors shall furnish all warning signs, detours, and temporary facilities necessary for the protection and safety of all employees.
  - 1. All construction areas to which non-construction personnel have access shall be marked with readily visibly warning signs (such as "Danger - Construction Area")
- C. Contractors are responsible for the safe handling, storage, and disposal of all waste material off-site on a timely basis. No trash or materials should be left on site.

### 1.12 DRESS AND CONDUCT

- A. All construction personnel shall maintain a neat general appearance at all times. Shirts, trousers and proper shoes are required apparel. Sandals or flip-flops will not be permitted.
- B. Anyone choosing to wear clothing with offensive words, pictures, etc., will be required to cover or change clothing even if to do so required loss of time form the job.

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- C. Any complaint resulting from construction personnel's action will be investigated. If complaints are verified, it can be cause for that person to be removed for the project.

### PART 2 - PRODUCTS

2.1 (Not Applicable)

### PART 3 - EXECUTION

3.1 (Not Applicable)

**END OF SECTION 01 49 50**

**SECTION 01 51 00 TEMPORARY UTILITIES**

**PART 1 - GENERAL**

**1.1 REQUIREMENTS INCLUDED**

- A. Furnish, install and maintain temporary utilities required for construction, remove on completion of work.

**1.2 RELATED REQUIREMENTS**

- A. All applicable sections of the specifications.
- B. General Conditions of the Contract.

**1.3 REQUIREMENTS OF REGULATORY AGENCIES**

- A. Comply with National Electric Code, (if applicable)
- B. Comply with all applicable Federal, State and Local codes and regulations and with utility company requirements.

**PART 2 - PRODUCTS**

**2.1 MATERIALS, GENERAL**

- A. Materials must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

**2.2 TEMPORARY ELECTRICITY**

- A. Arrange with utility company, provide service required for power, and pay all costs for service and for power used.
- B. Install circuit and branch wiring with area distribution boxes, located so that power and lighting is available throughout the construction by the use of power cords for construction.
- C. Provide adequate artificial lighting for all areas of work when natural light is not adequate for work, and for areas accessible to the public.

**2.3 TEMPORARY SANITARY FACILITIES**

- A. Provide sanitary facilities in compliance with all applicable laws and regulations.
- B. Service, clean and maintain facilities and enclosures.
- C. New plumbing facilities **shall not** be used by construction personnel.

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### 2.4 TEMPORARY TELEPHONE SERVICE

- A. Arrange with local telephone service company to provide direct line telephone service at the construction site for the use of personnel and employees.
- B. Pay all costs for installation, maintenance and removal, and service charges for local calls. Toll charges shall be paid by the party who places the call.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Comply with all applicable requirements specified in Division 33, (as applicable).
- B. Maintain and operate systems to assure continuous service.
- C. Modify and extend systems as work progress requires.

### 3.2 REMOVAL

- A. Completely remove temporary materials and equipment when their use is no longer required.
- B. Clean and repair damage caused by temporary installations or use of temporary facilities.

**END OF SECTION 01 51 00**

## SECTION 01 61 00 – PRODUCT SUBSTITUTIONS

### PART I – GENERAL

#### 1.01 DESCRIPTIONS

- A. Work Included: Make substitutions under the requirements of the Contract Documents, and submit the necessary information required by the contract documents to establish compliance with those documents.
- B. Individual requirements for Substitutions also may be described in pertinent Sections of these Specifications.

#### 1.02 RELATED REQUIREMENTS

- A. General Conditions.

#### 1.03 QUALITY ASSURANCE

- A. Coordination of Substitutions:
  - 1. Prior to each submittal for Substitution, carefully review and coordinate all aspects of each item being submitted.
  - 2. Verify that each item and the data submitted for it conform in all respects with the specified requirements.
  - 3. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.

#### 1.04 SUBMITTALS

- A. Voluntary substitutions shall be made at the time of bidding on the Substitution Request Form. Supportive submittal data; shop drawings, samples, etc., shall be made in accordance with Section 01 33 00, Project Submittals.

### PART 2 PRODUCT

#### 2.01 SUBSTITUTION REQUEST FORM

- A. **Contractor's Bid shall be per Drawings and Project Manual using only manufacturers listed and/or substitutions that have been approved by the Landscape Architect prior to submitting the bid.**
  - 1. Voluntary substitutions for products may be requested during bidding period by submitting completed Substitutions Request Form with the Bid.
  - 2. Requests for substitutions shall be made not later than 5 business days prior to the bid opening.
  - 3. Landscape Architect will consider requests from the Contractor, utilizing this section for the Substitutions of Products in place of those specified, only when:
    - 1. Substitution is requested on the form provided within this

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- specification section and within the time frame described in 2.01.A.2, above,
- 2. and when substantiated by the Contractor's submittal data provided with the submittal of the Substitution Request Form.
- B. Substitution Request Form is attached to this Section.
- C. Submit separate request for each substitution.

### 2.02 SUBSTITUTION SUPPORT DATA

- A. Support each request with:
  - 1. Complete data substantiating compliance of the proposed substitutions with requirements stated in Contract Documents.
    - a. Product identification, including manufacturers name and address
    - b. Manufacturers literature; identify
      - 1) Product description.
      - 2) Reference Standards.
      - 3) Performance and test data.
    - c. Samples, as applicable
    - d. Name and address of similar projects on which product has been used and date of each installation.
  - 2. Itemized comparison of the proposed substitution with project specified; list significant variations.
  - 3. Data relating to changes in construction schedule.
  - 4. Any effect of substitution on separate contracts.
  - 5. List of changes required in other work of products.
  - 6. Designation of required license fees or royalties.
  - 7. Designation of availability of maintenance services, sources or replacement materials.

## PART 3 EXECUTION

### 3.01 SUBSTITUTION PROCEDURE

- A. Furnish and install Products specified, under options and conditions for substitutions stated in this Section.
- B. Contractor's Options:
  - 1. For Products specified only by reference standard, select Product meeting that standard, by any manufacturer.
  - 2. For Products specified by naming several Products or manufacturers, select any one of products and manufacturers named which complies with specifications.
  - 3. For Product specified by naming several Products or manufacturers and stating "or equivalent", "or equal", or "Landscape Architect approved



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equivalent", or similar wording, submit a request as for substitutions for any Product or manufacturer which is not specifically named for review and approval by the Landscape Architect.

- D. Substitutions will not be considered for acceptance when;
  - 1. They are indicated or implied on shop drawings or product data submittals without a formal request from the Contractor.
  - 2. Acceptance will require substantial revision of Contract Documents.
  - 3. In judgment of Landscape Architect, data submitted does not include adequate information necessary for a complete evaluation.
  - 4. If requested less than 5 days prior to bid opening.
- E. Substitute products shall not be ordered or installed without acceptance of Landscape Architect.
- F. Landscape Architect will determine acceptability of proposed substitutions.
- G. Contractor's Representation:
  - 1. In making formal request for substitution, Contractor represents that:
    - a. He has investigated proposed product and determined that it is equivalent to or superior in all respects to that specified.
    - b. He will provide same warranties or bonds for substitutions as for product specified.
    - c. He will coordinate installation of accepted substitution into the Work and will make such changes as may be required for the Work to be complete in all respects.
    - d. He waives claims for additional costs caused by substitutions which may be subsequently become apparent.
- H. Landscape Architect's Duties:
  - 1. Review Contractor's requests for substitution with reasonable promptness.
  - 2. Notify Contractor, in writing, of decision to accept or reject requested substitution.

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SUBSTITUTION REQUEST FORM:

CONTRACT AWARD

DATE: \_\_\_\_\_

TO: \_\_\_\_\_

PROJECT: \_\_\_\_\_

We hereby submit for your consideration the following product instead of the specified item for the above project:

DRAWING SPEC. SPECIFIED ITEM	SECT. NO.	PARAGRAPH
---------------------------------	-----------	-----------

Proposed  
Substitution: \_\_\_\_\_

Attach complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.

Submit with request all necessary samples and substantiating data to prove equal quality and performance to that which is specified. Clearly mark manufacturer's literature to indicate equality in performance.

Fill in the blanks below.

1. Does the substitution affect dimensions shown on the Drawings?  
Yes \_\_\_\_\_ No \_\_\_\_\_ If yes, indicate changes.
2. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by requested substitution?  
Yes \_\_\_\_\_ No \_\_\_\_\_ If no, fully explain.
3. What affect does substitution have on other Contracts or other trades?
4. What affect does substitution have on the Construction Schedule?
5. Manufacturer's Warranties of the proposed and specified items are:  
\_\_\_\_\_ Same \_\_\_\_\_ Different (explain on attachment).
6. Reason for request:

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7. Itemized comparison of specified item (s) with the proposed substitutions; list significant variations:
8. Accurate cost data comparing proposed substitution with product specified.
9. Designation of maintenance services and sources:

(Attach additional sheets if required.)

### ASSUMPTION OF LIABILITY FOR EQUAL PERFORMANCE

\_\_\_\_\_ Accepted                      \_\_\_\_\_ Accepted as noted

Undersigned states that the function, appearance and quality are equivalent or superior to the specified item.

Submitted by:

\_\_\_\_\_  
Signature                      Title

By:

\_\_\_\_\_  
Firm

Date:

\_\_\_\_\_  
Address

Telephone:

CERTIFICATE OF EQUAL PERFORMANCE: (For Use by Landscape Architect)

\_\_\_\_\_ Accepted      \_\_\_\_\_ Accepted as noted      \_\_\_\_\_ Received too late      \_\_\_\_\_ Rejected

Remarks:

Signature shall be by person having authority to legally bind his firm to the above items. Failure to provide legally binding signature will result in retraction of approval.

**END OF SECTION 01 61 00**

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## **SECTION 01 77 00 - CLOSEOUT PROCEDURES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Inspection procedures.
  - 2. Warranties.
  - 3. Final cleaning.
- B. Related Sections include the following:
  - 1. Division 01 Section "Application for Payment" for requirements for Applications for Payment for Substantial and Final Completion.
  - 2. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
  - 3. Divisions 02 through 32 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

#### **1.3 SUBSTANTIAL COMPLETION**

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
  - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
  - 2. Advise Owner of pending insurance changeover requirements.
  - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.

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6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
  7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
  8. Complete startup testing of systems.
  9. Submit test/adjust/balance records.
  10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  11. Advise Owner of changeover in other utilities.
  12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
  13. Complete final cleaning requirements, including touchup painting.
  14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, the Owners Project Representative will either proceed with inspection or notify Contractor of unfulfilled requirements. The Design Team's Representative will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by the Design Team, which must be completed or corrected before certificate will be issued.
1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
  2. Results of completed inspection will form the basis of requirements for Final Completion.

### 1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 01 Section "Application for Payment".
  2. Submit certified copy of Design Team's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Design Team. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  4. Submit pest-control final inspection report and warranty.
  5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Owners Project Representative will either proceed with inspection or notify Contractor of unfulfilled requirements in writing, giving the reasons thereof. Contractor shall remedy the deficiencies in the Work and send a second written notice of substantial

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completion to the Owner. The Owner will re-inspect the Work. Design Team's Representative will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

C. When the Owner finds that the Work is substantially complete, the Contractor will:

1. Prepare and deliver to Owner a tentative Certificate of Substantial Completion on form provided herein, with a tentative list of items to be completed or corrected before final payment.

### 1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Preparation: Submit digital copy (PDF) of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order.
2. Include the following information at the top of each page:
  - a. Project name.
  - b. Date.
  - c. Name of Owner's Project Representative.
  - d. Name of Contractor.
  - e. Page number.

### 1.6 FINAL INSPECTION

A. When Contractor considers the Work is complete, it shall submit written certification that:

1. Contract Documents have been reviewed.
2. Work has been inspected for compliance with Contract Documents.
3. Work has been completed in accordance with Contract Documents.
4. Equipment and systems have been tested in the presence of the Owner and are operational.
5. Work is completed and ready for final inspection.

B. The Owner will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.

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- C. Should the Owner consider that the Work is incomplete or defective:
  - 1. The Owner will promptly notify the Contractor in writing, listing the incomplete or defective work.
  - 2. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to the Owner that the Work is complete.
  - 3. The Owner will re-inspect the Work.

### 1.7 REINSPECTION FEES

- A. Should the Owner perform re-inspections due to failure of the Work to comply with the claims of status of completion made by the Contractor:
  - 1. The Owner will compensate the Engineer / Architect / Consultants, etc., for such additional services.
  - 2. The Owner will deduct the amount of such compensation from the final payment to the Contractor.

### 1.8 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
  - 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
  - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
  - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.



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### 1.9 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to the Owner.
- B. Statement shall reflect all adjustments to the Contract Sum:
  - 1. The original Contract Sum.
  - 2. Additions and deductions resulting from:
    - a. Previous change orders or written amendment
    - b. Allowances
    - c. Unit prices
    - d. Deductions for uncorrected work
    - e. Penalties and bonuses
    - f. Deductions for liquidated damages
    - g. Deductions for re-inspection payments
    - h. Other adjustments
  - 3. Total Contract Sum, as adjusted.
  - 4. Previous payments.
  - 5. Sum remaining due.
- C. The Owner will prepare a Final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

### 1.10 FINAL APPLICATION FOR PAYMENT

- A. Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

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### PART 3 - EXECUTION

#### 3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
  - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    - g. Sweep concrete floors broom clean in unoccupied spaces.
    - h. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
    - i. Remove labels that are not permanent.
    - j. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
      - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
    - k. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
    - l. Replace parts subject to unusual operating conditions.

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- m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
  - n. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
  - o. Leave Project clean and ready for occupancy.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.
- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

**END OF SECTION 01 77 00**

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## **SECTION 01 78 36 WARRANTIES AND BONDS**

### **PART 1 - GENERAL**

#### **1.1 REQUIREMENTS INCLUDED**

- A. Compile specified warranties and bonds.
- B. Compile specified services and maintenance contracts.
- C. Co-execute submittals when so specified.
- D. Review submittals to verify compliance with Contract Documents.
- E. Submit to Owners Project Representative for review and transmittal to Owner.

#### **1.2 RELATED REQUIREMENTS**

- A. All applicable sections of the specifications.
- B. General and Special Conditions of the Contract.

#### **1.3 SUBMITTAL REQUIREMENTS**

- A. Assemble warranties, bonds and service and maintenance contracts, executed by each of the respective manufacturers, suppliers, and subcontractors.
- B. Number of original signed copies required: One each. Number of digital copy (PDF) required: One each.
- C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.
  - 1. Product of work item.
  - 2. Firm, with name of principal, address and telephone number.
  - 3. Scope.
  - 4. Date of beginning warranty, bond or service and maintenance contract.
  - 5. Duration of warranty, bond or service maintenance contract.
  - 6. Provide information for Owner's personnel:
    - a. Proper procedure in case of failure.
    - b. Instances which might affect the validity of warranty or bond.
  - 7. Contractor, name of responsible principal, address and telephone number.

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- D. Prepare any other submittal information as may be required by the General Conditions of the Contract.

### 1.4 FORM OF SUBMITTALS

- A. Prepare one (original) packet and provide one digital copy (PDF)
- B. Format:
  - 1. Size 8-1/2 in. X 11 in., punch sheets for standard 3-ring binder.
    - 1. Fold larger sheets to fit into binders.
  - 2. Cover: Identify each packet with typed or printed title 'WARRANTIES AND BONDS'. List:
    - 1. Title of Project.
    - 2. Name of Contractor.
- C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

### 1.5 TIME OF SUBMITTALS

- A. Make submittals at the date of request for Final Payment.
- B. For items of work, where acceptance is delayed materially beyond Date of Substantial Completion, provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

### 1.6 SUBMITTALS REQUIRED

- A. Submit warranties, bonds, service and maintenance contracts for periods other than one year as specified in respective specific sections of the specifications, (if applicable).

### 1.7 WARRANTY SUBMITTAL REQUIREMENTS

- A. For all major pieces of equipment, submit a warranty from the equipment manufacturer. The manufacturer's warranty period shall be concurrent with the Contractor's for one (1) year plus time equipment is not functional to the Owner unless otherwise specified, commencing at the time of final acceptance by the Owner.
- B. The Contractor shall be responsible for obtaining certificates for equipment warranty for all major equipment specified in the specifications and which has at least a one (1) horsepower motor or which lists for more than \$500.00. The Owner reserves the right to request warranties for equipment not classified as major. The Contractor shall still warrant equipment not considered to be "major" in the Contractor's one-year warranty period even though certificates of warranty may not be required.
- C. In the event that the equipment manufacturer or supplier is unwilling to provide the

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warranty described above commencing at the date of substantial completion, the Contractor shall obtain from the manufacturer a two (2) year warranty commencing at the time of equipment delivery to the job site. This two (2) year warranty from the manufacturer shall not relieve the Contractor of the one (1) year warranty starting at the time of Owner acceptance of the equipment.

- D. The Owner shall incur no labor or equipment cost during the guarantee period.
- E. Guarantee shall cover all necessary labor, equipment and replacement parts resulting from faulty or inadequate design, improper assembly or erection, defective workmanship and materials, leakage, breakage or other failure of all equipment and components furnished by the manufacturer.

### PART 2 - PRODUCTS

- A. (Not Applicable)

### PART 3 - EXECUTION

- A (Not Applicable)

**END OF SECTION 01 78 36**

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## **SECTION 01 78 38 PROJECT RECORD DOCUMENTS**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION OF WORK**

- A. Work included:
  - 1. Throughout progress of the Work, maintain an accurate record of changes in the Contract Documents, as described in Article 3.1 below.
  - 2. Upon completion of the Work, transfer the recorded changes to a set of Record Documents, as described in Article 3.02 below.
- B. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, special Conditions, and Sections in all divisions of these Specifications.

#### **1.2 QUALITY ASSURANCE**

- A. Delegate the responsibility for maintenance of Record documents to one person on the Contractor's staff as approved by the Owners Project Representative.
- B. Accuracy of Records:
  - 1. Thoroughly coordinate changes within the Record Documents making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to show the change properly.
  - 2. Accuracy of records shall be such that future search for items shown in the Contract Documents may rely reasonably on information obtained from the approved Project Record Documents.
- C. Make entries within 24 hours after receipt of information that the change has occurred.

#### **1.3 SUBMITTALS**

- A. Comply with pertinent provisions of Section 01 33 00.
- B. The Owners Project Representative's approval of the current status of Project Record Documents may be a prerequisite to the Owners Project Representative's approval of requests for progress payment and request for final payment under the contract.
- C. Prior to submitting each request for progress payment, secure the Owners Project Representative's approval of the current status of the Project Record Documents.
- D. Prior to submitting for final payment, submit the final Project Record Documents to the Owners Project Representative and secure his approval.

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### 1.4 PRODUCT HANDLING

- A. Maintain the job set of Record Documents completely protected from deterioration and from loss and damage until completion of the work and transfer of all recorded data to the final Project Record Documents.
- B. In the event of loss of recorded data, use means necessary to again secure the data to the Owners Project Representative's approval.

## PART 2 - PRODUCTS

### 2.1 RECORD DOCUMENTS

- A. Job Set: Promptly following receipt of the Owner's Notice to Proceed, the Contractor shall receive from the Design Team, one complete set of prints of all documents comprising the Contract to be kept and maintained on a daily basis at the site.
- B. The Job Set shall include, at a minimum:
  - 1. Drawings
  - 2. Specifications
  - 3. Addenda
  - 4. Change Orders and other modifications of the Contract
  - 5. Field Orders or written instructions
  - 6. Approved Shop Drawings, Working Drawings and Samples
  - 7. Field Test records
  - 8. Construction photographs
  - 9. Change Requests
  - 10. Contractor's Daily Reports
  - 11. Written Interpretations and Clarifications
- B. Final Record Documents: The final record drawings on each project that are to be turned over to the owner shall consist of the following:
  - 1. One CD of electronic drawings.

## PART 3 - EXECUTION

### 3.1 MAINTENANCE OF JOB SET

- A. Immediately upon receipt of the job set described in Paragraph 2.01-A above, identify each of the Documents with the title, "RECORD DOCUMENTS - JOB SET" in 2" high printed letters.
- B. Preservation: Do not use the job set for any purpose, except entry of new data and for review by the Owners Project Representative, until start of transfer of data of final Project Record Documents.
  - 1. Maintain the job set at the site of Work as that site is designated by the Owners Project Representative, for his inspection of the documents at least once a month.
  - 2. Store documents and samples in Contractor's field office apart from

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documents used for construction. Provide files and racks for storage of documents. Provide locked cabinet or secure storage space for storage of samples.

3. File documents and samples in accordance with CSI format with section numbers as provided herein.
4. Maintain documents in a clean, dry, legible, condition and in good order. Do not use record documents for construction purposes.
5. Make documents and samples available at all times for inspection by the Owner.
6. As a prerequisite for monthly progress payments, the Contractor is to exhibit the currently updated "Record Documents" for review by the Owner. Contractor shall submit on a daily basis one (1) digital copy (PDF) of the preceding day's daily report to the Owner.

### C. Making Entries on Drawings:

1. Using an erasable colored pencil (not ink or indelible pencil) clearly describe the change by graphic line and note as required.
2. Date all entries.
3. Call attention to the entry by a "cloud" drawn around the area or areas affected.
4. In the event of overlapping changes, use different colors for the overlapping changes.

### D. Make entries in the pertinent other documents as Approved by the Design Team.

### E. Recording

1. Keep record documents current at the end of work each day marking any changes and inserting change orders and directives into the documents.
2. Do not permanently conceal any work until required information has been recorded. This includes markups and any "as-built" survey as required by these specifications.
3. Record Contract Drawings: Legibly mark drawings to record actual construction with the following information verified by a registered Florida Land Surveyor.
  - a. Depths of various elements of foundation in relation to survey datum.
  - b. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
  - c. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
  - d. Field changes of dimension and detail.
  - e. Changes made by Revision Order, Directive, and other modifications.
  - f. Details not shown on the original Contract Drawings.

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- g. Installation of power and control wiring with point-to-point wiring identification.
    - 4. Record Specifications and Addenda: Legibly mark-up each Section to record:
      - a. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
      - b. Changes made by Revision Order, Directive, and other modifications.
      - c. Other matters not originally specified.
    - 5. Shop Drawings and Samples: Legibly annotate to record changes made after approval.
  - F. Conversion of Schematics Layouts:
    - 1. In some cases on the Drawings, arrangements of conduits, circuits, piping, ducts, and similar items, is shown schematically and is not intended to portray precise physical layout.
      - a. Final physical layout is determined by the Contractor, subject to the Owners Project Representative's approval.
      - b. However, design of future modifications of the facility may require accurate information as to the final physical layout of items which are shown only schematically on the Drawings.
    - 2. Show on the job set of Record Drawings, by dimension accurate to within one inch.
      - a. Record dimensions locating all underground and concealed piping and conduit both horizontally and vertically.
      - b. All changes, modifications and relocation of work.
      - c. Clearly identify the item by accurate note such as "cast iron drain," "galv. water," and the like.
      - d. Show, by symbol or note, the vertical location of the item such as "under slab, "exposed," and the like.
      - e. Make all identification sufficiently descriptive that it may be related reliably to the Specifications.
  - G. The Owner's Representative may waive the requirements for conversion of schematic layouts where, in the Owners Project Representative's judgment, conversion serves no useful purpose. However, do not rely upon waivers being issued, except as specifically issued in writing by the Owners Project Representative.

### 3.2 FINAL PROJECT RECORD DOCUMENTS

- A. The purpose of the final Project Record Documents is to provide factual information regarding all aspects of work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.
- B. Approval of Recorded Data Prior to Transfer
  - 1. Following completion of the work, the Contractor shall deliver the completed

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“Job Set” of as built documents to the Owners Project Representative. The Owners Project Representative shall review with the Contractor all recorded changes in the work as to completeness and accuracy.

### C. Review and Submittal:

1. The Owners Project Representative shall submit the completed set of Project Record Documents to the Owner as described in Paragraph 1.03-D above.
2. Participate in review meetings as required.
3. Make required changes and promptly deliver the final reproducible Mylar Project Record Documents along with ten complete sets of blue-line prints to the Owner.
4. If after a period of 30 days from the date of Substantial Completion as established by the Owners Project Representative's certificate to the Owner, final “Job Set” record documents acceptable to the Owners Project Representative have not been received, legibly reflecting the correct as built conditions of the project, the Owner may cause such drawings to be prepared by such persons other than the Contractor and shall charge the Contractor for the cost incurred for preparation of such drawings at a rate of \$100.00 per hour, which shall be deducted from the amount due to the Contractor.

### 3.3 “AS-BUILT” DRAWINGS

- A. The Contractor shall engage the services of a professional land surveyor registered in the State of Florida prior to any construction activities. The surveyor shall be named in the list of subcontractors.
- B. The surveyor must comply with all requirements of Chapter 21 HH-6.05 of the Florida Administrative Code.
- C. The surveyor shall use the locational requirements of the State of Florida.
- D. The surveyor shall provide on-site survey while construction is in progress and at such other times as required to fulfill all professional obligations and as listed below.
  1. Elevations and state plane coordinates shall be identified for the ends of all conduits or pipelines installed or used for construction, ends of all duct bank stubouts, and all direct buried cable splice locations.
  2. Elevations and coordinates shall be identified along the center line of pipelines, direct buried cable, buried conduit or duct bank by no fewer than one elevation shot per one hundred (100) linear feet and at any change of direction vertical or horizontal of underground utility length. Slopes shall be identified.
  3. All elevation shots shall be referenced to “top-of-pipe” (T.O.P.), “top-of-concrete-duct-bank” (T.O.D.B.), “bottom-of-concrete-duct-bank” (B.O.D.B.), “top-of-conduit” (T.O.C.) or “top-of-electric-cable” (T.O.E.), as appropriate for

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the project.

4. Manhole rings, slabs on grade, valve box rims, equipment pads, surface body water levels and other project construction features shall be recorded by elevation and state plane coordinates as "As-Built".
  5. For directionally drilled crossings and other "trenchless technology" installations, provide continuous plots of utility plan and profile derived from actual telemetry data used during the installation.
  6. All existing structures, utilities, and features revealed during the course of construction shall be accurately located and dimensioned. Movement of such utilities or structures required by project installation shall be recorded as "As-Built". This requirement shall apply whether the existing structure, utility or feature was shown on the original contract drawings or not.
- E. At the conclusion of the work, the Contractor shall provide the Owner one digital, certified "As-Builts" and one (1) "As-Built" Survey Drawing file in AutoCAD format (latest release) on compact disk(s). The AutoCAD drawing files shall comply with the following standards:
1. The compact disk(s) shall be formatted for AutoCAD type DWG files or self-extracting compressed data file to a DWG format.
  2. The drawing format shall not contain any "X-REFS" (cross references) to other files.
  3. The drawing format will contain only AutoCAD Standard Font Files and Acad.mnu type menu references only.
  4. Text from different layers shall not overlap. Colors and line types shall be "BY-LAYER". Only AutoCAD standard fonts and line types shall be used.
  5. All coordinate and elevation numbers shall be limited to three (3) decimal places.
  6. Text height shall be entered such that when the drawing is plotted to scale, the actual text height is no less than one-eighth inch (1/8"). The plotting scale for the drawings shall be the same scale as the construction drawings.
  7. Drawings shall be plotted on twenty-four inch (24") x thirty-six inch (36") sheets. The areas on each sheet shall match the areas shown on the construction drawings.

### 3.4 SUBMITTALS

- A. The Contractor shall deliver the following documentation, drawing(s) and data to the Owner no later than two (2) weeks after the declared date of Substantial Completion.
1. Two (2) sets of contract drawings marked in red to reflect the final "As-Built" conditions.
  2. Two (2) sets of signed and sealed plots of the "As-Built" drawings(s) provided

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by the surveyor together with one (1) digital copy (PDF) of the "As-Built" survey drawing file(s).

3. One (1) set of Specifications with Addenda marked in red to reflect the final "As-Built" conditions.
- B. Such other documents as may be required by the regulations of the State of Florida shall be supplied in accordance with the provisions of law.
  - C. Accompany submittal with transmittal letter, in duplicate, containing:
    1. Date, Project title and number.
    2. Contractor's name and address.
    3. Title and number of each record document.
    4. Certification that each document as submitted is complete and accurate, and contains signature of Contractor, or its authorized representative.
  - D. Failure to deliver any of the above items shall be considered justification for assessing additional retainage.

### 3.5 CHANGES SUBSEQUENT TO ACCEPTANCE

- A. The Construction Manager has no responsibility for recording changes in the Work subsequent to Final Completion, except for changes resulting from work performed under Warranty.

**END OF SECTION 01 78 38**

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## PINE MEADOWS BOAT RAMP & KAYAK LAUNCH

### 03 45 10 – PRECAST CONCRETE DRY VAULT RESTROOM

#### PART I - GENERAL

##### 1.1 SUMMARY

- A. Contractor or manufacturer to furnish a turn-key precast concrete dry vault restroom. Building to be brought to the site in assembled modules and set upon a level and compact granular rock sub-base with up to a 100 ton crane, all included in the bid price. All site clearing and rough grading to within 6 inches of level are done by general contractor. Excavation for restroom vaults to be done by general contractor. Restroom to be an EasiSet/EasiSpan Building as manufactured by Leesburg Concrete Company Incorporated. Contractor or Manufacturer will pull all permits necessary. No utilities are available at this remote site. The Contractor shall provide for furnishing all materials, labor, tools and equipment for performing all operations necessary to complete the work under the Contract, plus any miscellaneous items and services that may not be specifically identified in the Contract Drawings and Specifications but that can be inferred from the Contract Drawings and Specifications and are necessary to produce a completed Work that is usable in a manner for which it was intended.

##### 1.2 QUALITY ASSURANCE

- A. Florida DBPR Insignia required, Section 553, Part I F.S.
- B. ACI-318-08 "Building code Requirements for Reinforced Concrete". Concrete Reinforcing Institute, "Manual of Standard Practice"
- C. ANSI/ASCE-7-10 "Building Code Requirements for Minimum Design Loads in Buildings and Other Structures".
- D. Florida Building Code, current edition.
- E. IBC 2012
- F. Concrete Reinforcing Institute, "Manual of Standard Practice"
- G. UL-752 text method level 5 for bullet resistance on concrete surfaces certified by an independent ballistic laboratory.
- H. Fabricator must be certified producer/member of the National Recast Concrete Association (NPCA).
- I. No alternate building design to the pre-engineered building as produced by Leesburg Concrete will be allowed unless pre-approved by the owner 10 days prior to the bid date.

##### 1.3 DESIGN REQUIREMENTS

- A. Design Loads
  - Standard Live Roof Load - 60 PSF
  - Standard Floor Load - 250 PSF (if precast floor provided by building manufacturer)

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- Standard Wind Loading -AsCE 7-10 conforming to geographic area.
  - Designed to meet the requirements of the Americans With Disabilities Act Requirements and Uniform Federal Accessibility Standard
  - Has one or two, one-piece vault(s) unit(s) to support the entire building, with a one piece floor unit with a 150 p.s.f. load capacity.
- B. Roof: To be post tensioned. The roof shall extend 4" beyond the wall panel and have a turndown design which extends 4" below the top edge of the wall panels to prevent water migration into the building along the top of wall panels.
- C. Floor -The floor covers the entire footprint of the holding tanks and the walls sit on top of the floor with the floor extending to the edge of the walls for additional strength. Floor should be a minimum of 5 inches thick and have a looped post tension cable. Floor will have a recessed keyway around the perimeter to accept the walls so as to form a physical water barrier.
- D. Vault - Precast Concrete Vault
1. Plate for vault cleanout cover will be 1/4" thick diamond plate steel. Lid will be configured so that it can be locked with a padlock. Lid will be designed to resist surface runoff penetration into the vault. A neoprene gasket will be provided around the entire perimeter of the lid to provide an airtight seal.
  2. Vault Coating-A USFS approved black Bituthene coatings as outlined in the ("In Depth Design and Maintenance Manual for Vault Toilets" -July 1991- Publication No. 9123 1601) will be applied to the interior walls and the bottom of the building floor which prevents hydrogen sulfite gas from attacking the concrete.
  3. Sealant between vault and toilet floor to be 1"x1" Butyl Rubber Sealant. A septic tank grade neoprene gasket is also applied in between the holding tanks and floor to seal the joint.

### 1.4 SUBMITTALS

- A. Drawings and calculations sealed by a professional engineer, licensed to practice in the state where the project is located, shall be submitted for approval.
- B. Manufacturer to provide cut sheets on all attached fixtures.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Concrete: Steel-reinforced, 4000 PSI minimum 28-day compressive strength.
- B. Reinforcing Steel: ASTM A61s, grade 60 unless otherwise specified.
- C. Post-tensioning Strand: Roof and floor shall be post-tensioned with a 41K polystrand CPSO, .50", 270 KSI, 7-wire strand post tension cable, enclosed within a greased plastic sheath (ASTMA416).

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- D. Caulking: All joints between panels shall be caulked on the exterior and interior surface of the joints. Caulking shall be SIKAFLEX-LA elastic sealant or equal. Exterior caulk joint to be 3/8" x 3/8" square so that sides of joint are parallel for correct caulk adhesion.
- E. Vents: Two screened aluminum vents to be cast in rear wall. Vents shall be SUNVENT 8"x16" with bug screen, or equal.
- F. Panel Connections: All panel connections shall be welded together utilizing imbedded weld plates with Nelson anchors. Assembly shall be welded by a certified welder.

### 2.2 ACCESSORIES

- 1. Doors and Frames: 16 gauge galvanized 3068 HM door and frame, 4 7/8" throat, Schlage ND series heavy duty grade 1 cylindrical lockset and LCN series 1 Closer surface mounted. All doors and frames are in accordance with NOA 10-0209.07
- 2. ADA Stainless Steel Mirror
- 3. Toilet tissue dispenser Bobrick model # BOB-2740
- 4. Grab bar 36" Bobrick model # B 5806.99x36.
- 5. Grab bar 42" Bobrick model # B 5806.99x42.
- 6. Soap Dispenser by Bobrick model # BOB B-2112
- 7. Wall mounted trash can by Bobrick model # BOB-279
- 8. Door signs by Hillman with Braille, Men, Women, Unisex
- 9. ADA Compliant potty toilet riser by Romtec Engineering 18" high, white cross lined polyethylene with heavy duty seat.
- 10. Solatube 160 DS 10" skylight in each restroom.

### 2.3 FINISHES

- A. Interior of Building: Smooth form finish on all interior panel surfaces.
- B. Exterior of Building shall be form lined finished in a pattern selected from the Lake County Building Finish Options page and noted on the drawings.
- C. Paint: 1 coat of Loxon primer and two coats of Duracraft paint in owner's choice of exterior color. Inside walls to be painted in white, floor to be painted in Sherwin Williams HC Silver Gray #124.

## PART 3 - EXECUTION

### 3.1 SITE PREPARATION REQUIREMENTS

## PINE MEADOWS BOAT RAMP & KAYAK LAUNCH

### A. Excavation and Elevation

1. Comply with all applicable OSHA Standards for excavation.
2. The double vault toilet requires a hole that is 16ft wide and 16ft long as measured at the bottom. Depth should be 4'-9" below desired finished floor elevation.
3. Finish floor elevation will be 4-6 inches above natural grade measured at the front (entrance) of the exterior slab unless otherwise approved by the customer. The customer may specify a finish floor elevation for buildings at some sites. The contractor will install buildings at these sites with the floor elevation within 0.05 feet of the specified floor elevation. It is very important that the installation provides drainage away from the structure.

### B. Bedding and Compaction

1. Compact the natural ground at the bottom of the vault excavation with a minimum of three passes with a whacked-type mechanical compactor or equivalent approved by the customer.
2. Install sand or aggregate bedding material for leveling course. Compact leveling course with one pass with a whacked-type mechanical tamper or equivalent approved by the customer. Grade leveling course so there will be no high spots in the middle of the vault bottom. Compact with a second pass with a whacked or approved equivalent tamper.
3. Set vault in place. Backfill around structure. Use excavation material for backfill except that rocks larger than six inches in maximum dimensions shall not be placed within six inches of the exterior Vault walls.
4. Contractor or Manufacturer to haul off excess dirt from excavation for sub-base and sidewalk.

## 3.2 ACCESS

- A. The contractor must provide for a level, unobstructed area large enough for a 100 ton crane and a tractor-trailer to park adjacent to the pad. Crane must be able to place outriggers within 5'-0" of edge of pad, and truck and crane must be able to get side by side under their own power. No overhead obstructions may be within 75' radius of center of pad. Firm roadbed with turns that allow 65' lowbed tractor-trailer must be provided directly to site. No building shall be placed closer than 2'-0" to an existing structure.

**END OF SECTION 03 45 10**

## **SECTION 32 34 10 – FLOATING DOCKS AND GANGWAYS**

### **PART 1 - GENERAL**

#### **1.1 SCOPE**

- A. The work covered under this section shall consist of manufacturing and/or supplying of the prefabricated fixed piers, floating docks, gangways, pile guide, fendering, utility routing/anchorage system and other marine hardware and accessories as may be shown or enumerated on the plans

#### **1.2 SUBMITTALS**

- A. The deck and frame structural components of the floating docks and gangways shall be designed with minimum safety factors on working stress which conform to those set forth in the latest issue of the Aluminum Association "SPECIFICATIONS FOR ALUMINUM STRUCTURES" for buildings and similar type structures. The installing contractor shall be a qualified Marine Contractor or General Contractor licensed by the appropriate governing agency and shall be capable of securing building or construction permits. The manufacturer/supplier shall have a minimum of 5 years continuous experience in commercial pier, dock or gangway fabrication and may be required to submit a list of previous experience on similar projects. If required, the previous record will be submitted to the owner or owner's designated representative 10 working days prior to the bid opening. To ensure that all specified criteria have been met when supplying other than the specified items the following items may be required with the contractor's bid:
1. Dimensional layout of piers, docks, gangways and piles or anchorage systems to be furnished under this contract.
  2. Engineering calculations showing compliance with the design criteria specified herein. All calculations will be stamped with the seal of a qualified licensed, professional engineer.
  3. Computations shall include as a minimum the following:
    - Compliance with combined live and dead load requirements considering both bending and deflection.
    - Compliance with freeboard requirements under normal load conditions.
  4. Typical sections or details of the following:
    - Fixed piers, including pile connectors.
    - Floating docks, including flotation.

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- Finger dock or pier, including connection to main walkway.
- Gangways, including connections to bulkhead or fixed pier, handrails and handicapped ramps.
- Anchorage system.
- Utility hangar and access system.
- Decking material and connection details.
- Cleats-location and connection details.

### PART 2 - PRODUCTS

#### 2.1 FRAME

- A. Aluminum extrusions for dock, pier and gangway structures shall be aluminum alloy 6061-T6 "E" channels extruded in accordance with the requirements of applicable sections of Federal Specifications QQ-A-200. Miscellaneous aluminum may be 6063-T5 or 5052-H32.

#### 2.2 FLOTATION

- A. Flotation shall consist of ridged urethane foam utilizing a two-component polymeric MDI system designed for Marine Flotation applications injected into aluminum shell to 2.0 pounds per cubic foot.
- B. Full Float (TM) dock flotation frame shall consist of a fully encased 6061-T6 box frame of similar design to the floating dock walking surface frame.
- C. Expanded polystyrene flotation with or without polyethylene casing shall be prohibited.

#### 2.3 DECKING

- A. Aluminum decking shall be symmetrically extruded slats with integrated ribs and mechanical knurling to provide a non skid surface. Decking to be aluminum alloy 6061-T6.
- B. Cleats shall be cast aluminum alloy meeting the requirements of the Federal Specification QQ-A-571F and QQ-A-60E.

#### 2.4 FENDERS

- A. Fenders shall be wood polymer composite material.

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- B. Vinyl bumper shall be of non-marring marine grade extruded vinyl with minimum 3" vertical face. Stand black vinyl bumper shall be UV stabilized. While vinyl bumpers shall be non-yellowing.

### 2.5 ROLLERS

- A. Rollers for either pile guides or gangways shall be UHMW polyethylene with black ultra violet light inhibitors added.

### 2.6 HANDRAILS

- A. Handrails on gangways when specified shall be 6061-T6 aluminum alloy, minimum.
- B. Handrails shall be in accordance with applicable sections of the American with Disabilities Act Accessibility Guidelines for Buildings and Facilities.

## PART 3 - EXECUTION

### 3.1 DESIGN

- A. Frame: For fixed piers, gangways, and the structural frame design of floating docks, the aluminum frame and decking shall be designed to withstand the full calculated dead load of all framing & accessories combined with a live load of 50 pounds per square foot. Allowable deflection shall be  $L/180$  where "L" in inches is the freespan between supports for fixed piers & gangways, or the freespan between cross member for floating docks.
- B. Flotation: All floating docks shall be designed for a minimum freeboard of 8 inches under full dead plus live load, and 10 inches under a dead load plus concentrated load of 400 pounds applied at any location on the dock walking surface. Additional flotation shall be added to support the gangway dead loads without creating undue distortion in the dock.
- C. Full Float™ docks shall be designed for a minimum of 40psf live load providing a minimum of 16" unloaded freeboard.
- D. Accessories: Cleats shall be designed to withstand a mooring line load of 1500 pounds in any direction.
- E. Handrails shall be a minimum of 42 inches in height above the finished walking surface and shall withstand a uniform horizontal load of 20 pounds per linear foot applied at the top of the rail.
- F. Hinged or bolted floating dock module connectors shall be able to withstand a load of 3000 pounds applied to the full connector.

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- G. Anchoring devices for floating docks shall allow free movement of the dock, while minimizing damage due to normal dock movement caused by tides, boat wakes, water fluctuation and seasonal winds. Anchoring devices shall be of sufficient number to restrain a uniform lateral force of 150 pounds per linear foot applied along the entire length of the dock.
- H. Utility lines shall meet all governing construction and fire codes. All electrical lines, junction boxes and accessories shall be installed with the strict adherence to the latest edition of the "National Electrical Code".

### 3.2 FABRICATION

- A. Frame: All aluminum structural members shall be welded in accordance with the American Welding Society Structural Welding Code D1.2. Individual dock and pier sections shall be sequentially numbered, matched, and pre-drilled in the shop prior to shipment.
- B. Flotation: All flotation shall be fully installed in the shop. Selected floats may be removed to facilitate shipping.
- C. Full Float™ docks shall have the float fully welded with gussets between the float frame & dock frame at each cross member location or maximum 5' centers.
- D. Accessories: Aluminum decking shall be spaced with not more than 3/8 inch air space between the slats. Asymmetric/interlocking decking slats shall be prohibited to prevent water pooling on dock surface. The legs of each decking slat shall be welded to the side members and to any longitudinal with a minimum of 1-1/4 inches of weld per leg. The decking slats shall be placed transversely on the gangway, pier or dock.
- E. Cleats on aluminum decked docks shall be welded with a continuous fillet weld. All cleats shall be installed in locations shown on plans.
- F. Where wood polymer composite fendering is used, place at minimum spacing of 4' on center with 3/8" type 304 stainless steel bolts countersunk below the wearing surface of the exposed side.
- G. Handrails shall be installed in locations shown in the plans. Handrails shall be secured in place with two 3/8" stainless steel bolts through the extruded handrail pockets welded to the side rail if a detachable type handrail system is used. Handrails will be welded to the side rails if a truss type system is requested. The type of handrail system shall be the option of the engineer.
- H. Hinge mount extrusions shall be welded to the frame of the dock with a continuous fillet weld unless otherwise shown on the plans. Non-hinged dock module connectors shall be shown on the plans.
- I. Anchoring devices, including pile guides, shall be bolted or welded to the piers and docks in locations and according to the details shown in the plans. Framing shall be braced at pile guides.



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### 3.3 INSTALLATION

- A. Docks and piers shall be anchored with pile guides or other anchoring devices bolted to the aluminum frame. Floating docks must move freely during the entire cycle of water level extremes with the normal expected wind condition. Utility lines must not be installed on top of the deck or in a location subject to damage during normal use and must be installed to function properly during normal expected water level and weather extremes.
- B. Gangways shall be securely fastened to the wall or fixed structure as shown on plans. Utilities running on the gangway shall be installed so as not to interfere with the access area of the gangway or to be damaged during normal operation.
- C. Utility hangars and access panels shall be mounted and located as shown in plans.
- D. Any potentially corrosive installation of dissimilar metals shall be properly insulated to minimize or eliminate corrosion in a marine environment.

**END OF SECTION 32 34 10**

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## PINE MEADOWS BOAT RAMP AND KAYAK LAUNCH

### **SECTION 33 34 20 PILINGS**

#### PART I - GENERAL

##### 1.01 DESCRIPTION OF WORK

- A. Provide all labor, materials, equipment and transportation to compete the construction of the piling as shown on the drawings. The work includes:
  - 1. Installation of marine piles.
  - 2. Application of wood preservatives.

##### 1.02 QUALITY ASSURANCE

- A. Contractor shall have constructed a minimum of five (5) timber pile piers/launches of similar complexity. Provide evidence of experience to Owner's Representative prior to commencement.
- B. All workmanship and materials shall meet the approval of the Owner's Representative.

##### 1.03 DELIVERY, STORAGE AND HANDLING

- A. Deliver the materials to the project site and store in a safe and secure area out of the way of traffic, other construction operations and off the ground surface.
- B. Use extreme care in loading of piling to prevent damage, splitting, breaking or bending.

#### PART II - PRODUCTS

##### 2.01 MARINE PILING

- A. All marine piles shall be southern pine, pressure treated with waterborne chromated copper arsenate per AWPA Standard C18 with 2.5 pounds per cubic foot of retention, and must meet the requirements of Section 953 FDOT Standard Specifications for road and Bridge Construction, 1991 Edition.

#### PART III - EXECUTION

##### 3.01 PREPARATION

- A. Coordinate all work to be done by other trades.
- B. Lay out piling locations per plans.

##### 3.02 INSTALLATION

- A. Unless otherwise directed, piles shall be installed in conformance with Section 455 FDOT Standard Specification for Road and Bridge Construction, 1991 Edition.

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- B. Caps: The heads to timber piles shall be protected during driving by a cap of a type approved by the Owner's Representative.
- C. Remove and replace any piles that become damaged during driving operations.
- D. Coat all cuts in piles with two applications of C.C.A. or approved equal. Assure pile heads are cut to elevations to receive beams per plans and details. Assure that all piles are plumb and level.
- E. Unless otherwise directed, all marine piles shall have a minimum penetration of eight feet (8'-0") below "firm" lake bottom.
- F. Partial jetting of marine piles is acceptable, however piles must be driven a minimum of the last 24" of penetration.

### 3.03 DISPOSAL OF WASTE MATERIAL

- A. Stockpile, haul from site, and legally dispose of all waste materials. Accumulation is not permitted.

**END OF SECTION 33 34 20**