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VOLUME 1 OF 1

TECHNICAL SPECIFICATIONS

S P E C

FOR

**MURPHEY CANDLER PARK –
IMPROVEMENTS**

NORTH BOARDWALK

Design / Build

PROJECT MANUAL:

CITY OF BROOKHAVEN, GEORGIA

PROJECT #15092.00 E

BID #21-108

PREPARED BY:

CPL Inc.

Land Planning · Landscape Architecture

3011 Sutton Gate Dr. Suite 130

Suwanee, Georgia 30024

678 318-1241

TECHNICAL PROVISIONS

DIVISION 0 - BIDDING/CONTRACT REQUIREMENTS

Section Title

	Invitation to Bid, No 21-108 Murphey Candler Park – North Boardwalk
00-003	Plans Sheet Manifest
00-300	Bid Form
00-350	Instructions to Bidders (ITB)
	List of Subcontractors

DIVISION 1 - GENERAL REQUIREMENTS

Section Title

01010	Supplementary Conditions
01026	Schedule of Values
01027	Applications for Payment
01035	Modification Procedures
01040	Coordination
01050	Field Engineering
01095	References, Standards and Definitions
01200	Project Meetings
01220	Unit Prices
01300	Submittals
01345	Project Drawings
01400	Quality Control
01500	Construction Facilities and Temporary Controls
01563.9	Tree Care and Protection
01600	Materials and Equipment
01631	Substitutions
01700	Contract Closeout
01740	Warranties
01740.A	Contractor Warranty Form
01741	Subcontractor Warranty Form

DIVISION 2 - SITE WORK

Section Title

02100	Site Preparation
02112	Tree Protection
02125	Erosion and Sedimentation Control
02855	Boardwalk Bridge Construction
02889	Woodland Trail Construction
02975	Cleanup and Finish

DIVISION 5 - METAL

Section Title

05661 Helical Piles (Piers)

DIVISION 6 - WOOD

Section Title

06100 Rough Carpentry
06105 Miscellaneous Rough Carpentry

DIVISION 17 – WASTE MANAGEMENT

Section Title

174198 Construction Waster Management

APPENDIX

- A. Letter of No Permit
- B. Geotechnical Soil Report
- C. City LDP Process
- D. City Building Permit
- E. Building Permit Portal
- F. Contractor Registration Form
- G. Permit Agent Form
- H. Dekalb Co. Permit Process
- I. Resubmittal to Dekalb Co
- J. GSWCC Review procedure
- K. GSWCC Review Letter Request
- L. No Rise Coordination

END OF SECTION 00002

Bidder acknowledges receipt of the following addenda:

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

BASE BID LUMP SUM WITH UNIT PRICES

Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Clark, Patterson, Lee (CPL) and their sub-consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish final design, engineering, all material, labor, equipment services, and all calculated allowances below, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated **Lump Sum** of:

_____ Dollars

(\$ _____)

(Total transferred from the Construction Items Bid Schedule

BID GUARANTEE

The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within 10 ten days after a written Notice of Award, if offered within 60 sixty days after receipt of bids, and on failure to do so agrees to forfeit to Owner the Bid Bond, as liquidated damages for such failure, in the following amount constituting five percent (5%) of the Base Bid amount above:

_____ Dollars (\$ _____)

SUBCONTRACTORS AND SUPPLIERS

The Bidder shall execute subcontracts for the portions of the Work as indicated on the attached List of Sub-contractors.

TIME OF COMPLETION

The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed

to be issued by Owner and shall fully complete the Work within 120 calendar days.

The City of Brookhaven will charge the Contractor Five Hundred Dollars and no cents (\$500.00) per day for liquidated damages for every day beyond the contracted Time of Completion that the Work is not complete.

Note: Completed Construction Items Bid Schedule must be completed in full and attached to this Bid Form or be declared Non-Conforming:
See Instructions to Bidders ITB

Bidder further declares that the full name and resident address of Bidder's Principal is:

Authorized Representative
(Print or Type)

Authorized Representative
(Signature)

Signed, sealed, and dated this _____ day _____, 202_

Notarized _____ (Seal)

My Commission Expires _____

Company Name and Address:

Principal: _____

Title: _____

SECTION 01010

SUPPLEMENTAL CONDITIONS

- 1.1 General: These Conditions are a Supplemental Conditions to the General Conditions of the Contract for Construction
- 1.2 Drawings and Specifications: See Cover Sheet of Drawings for list of Contract Drawings.

See Table of Contents of Project Manual for list of Technical Specification Sections. Pay particular attention to Division 1 of the Specifications as they apply to the General Conditions.

Contractor may request an AutoCAD copy of the site survey by TerraMark and the Conceptual Design plans by CPL from the City of Brookhaven, if so desired.
- 1.3 Temporary Equipment: See Section 01600 Materials and Equipment for more detail.
- 1.4 Lifting Devices and Hoisting Facilities: The Contractor shall provide, operate and maintain construction cranes for hoisting materials, as well as other type hoists, as may be required for execution of the work of all trades as identified in the contract documents and specifications. Such apparatus, equipment and construction shall meet the requirements of labor laws and other applicable state and federal laws.
- 1.5 Temporary Support Facilities: See Section 01500 Construction Facilities.
- 1.6 Layout of Site Work: See Section 01050 Field Engineering and Section 02100 Site Preparation for general descriptions.

Specific Requirements:

Before commencing any work, the Contractor shall verify all grades, lines, levels and dimensions as indicated on the Drawings. He shall report any errors or inconsistencies to the Landscape Architect before commencing work.

The Contractor shall stake the entire project, both as to location of all construction items as well as finish grades. This stakeout may be accurate or rough, depending on the Contractor's preference. This stakeout shall be made early in the construction process and preserved for reference during construction.

The purpose of the staking, with inspection and adjustment by the Landscape Architect, is to adapt the design to the site rather than allow the design to be forced upon the site. Staking is subject to various degrees of adaptation which can only be determined by the Landscape Architect. This variation is an aesthetic decision, the amount of adjustment most often determined by the existing trees, terrain, soil conditions, utilities, sub-surface water and by other intangibles which are impractical to survey in absolute accuracy.

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The Contractor shall notify the Landscape Architect at least five working days before inspection of the stakeout must be made. During the inspection the Landscape Architect will adjust the stakeout as necessary to fit the trees, topography, and all other objects and conditions on the site. At this time the Landscape Architect will clearly mark all trees and other vegetation to be removed. This staking-inspection process must take place prior to any tree removal, grading, construction, or any other work on the site.

During the inspection, the Contractor shall be at the site along with the person who will superintend the work under this contract.

The staking inspection process shall be repeated for any work not staked and approved or adjusted during the first site visit. No work shall ever be done without the stakeout first being adjusted and approved by the Landscape Architect. All alignment, dimensions and elevation of any grading, excavation, construction, and planting is subject to adjustment to accommodate existing conditions and to save trees and other vegetation.

Any work progress delays caused by inadequate, incomplete or improper staking shall not merit an extension of the contract or delay charges by the contractor.

The Landscape Architect shall have 2 days to respond to any request to come to the site and adjust a stakeout.

The Landscape Architect shall have a minimum of three (3) days to resolve any problems created by unknown conditions discovered during the stakeout or construction.

Contractor shall be responsible to adequately schedule his work to allow constant work to continue. When unknown conditions inhibit the flow of work the contractor shall continue unhindered portions elsewhere on the project and notify the Landscape Architect immediately.

- 1.7 Unknown Conditions: Subsurface Conditions: Should the Contractor encounter, during the progress of the work, subsurface latent physical conditions at the site, materially differing from those shown on the drawings, soil borings or specified as unknown conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of this character and site provided for in the drawings and specifications, the attention of the Landscape Architect shall be called immediately to such conditions before they are disturbed. The Landscape Architect shall thereupon promptly investigate the condition, and if he finds that they do so materially differ, the contract price shall, with the written approval of the Owner, be increased or decreased in accordance with such conditions.

It is assumed that the contractor understands that he is working in a consistent wetland area with some parts of the project crossing standing water from a manmade lake. This is reflected in the soil borings provided by the Client and visible on the site.

- 1.8 Geo-Technical Assistance. The Contractor shall coordinate the involvement and schedule of his Geotechnical Consultant for the project to observe and approve the pile driving.

The Owner will retain at his own expense the services of a qualified geo-technical engineer to advise on all construction techniques involved in the work, including the design, checking and approval of temporary bracing, shoring, underpinning and other items pertinent to the work, and on construction methods for solution of problems which may be encountered. The geo-technical engineer shall be primarily concerned with construction methods necessary to prevent settlement or failure of the boardwalk, piles and footings. Clients Geotech will observe the work and consult with the Contractor's Geotech on site.

- 1.9 Existing Utilities Shown. Existing utility lines shown on the drawings, such as, cables, conduits, and piping shall, if damaged (unless they are to be abandoned) be immediately repaired, protected, and maintained in use until relocation of same has been completed or shall be cut and capped where directed or shall be prepared for service connections when so required.
- 1.10 Utilities Not Shown. Contractor shall be responsible for securing the services of a utility locator to determine any unknown utilities that may be on the site. Any utilities encountered that are not shown on the drawings and are to remain as active utilities, if inadvertently damaged by the Contractor, shall be repaired by him. An adjustment in the contract price will be made at rates determined by the Contractor and approved by the Landscape Architect. If an extra expense is incurred in protecting and maintaining any utility line not shown on the drawings, an adjustment in the price will be made. Contractor shall not be compensated if the utility was improperly located or omitted by locator if it is deemed that the utility could have been detected.
- 1.11 Inclusion of Accessories: Unless specifically mentioned otherwise, all anchors, bolts, screws, fittings, fillers, hardware accessories, trim and other parts required for, or in connection with, an item of material to make a complete, serviceable, finished and first quality installation shall be furnished and installed as part of the item whether or not shown on the drawings or specified.
- 1.12 Protection: All materials shall be shipped, stored and handled in a manner that will afford protection and ensure their being in first class condition at the time they are incorporated in the work.

After installation all materials shall be properly protected against damage or theft to ensure their being in first class condition when the project as a whole is completed and accepted by the Owner.

- 1.13 Installation: All items shall be installed in a workmanlike manner in accordance with the best recognized practice of the trade. Manufactured items shall be installed in strict accordance with the manufacturer's printed directions, specifications and/or recommendations. All working parts shall be properly adjusted after installation and left in perfect working order. Unless otherwise indicated, items exposed to weather or subject to flooding shall be installed so as to shed water. Items shall in all cases be installed plumb and true and/or in proper relation to surrounding materials.

Samples: Contractor shall be responsible for preparing samples as required in the technical specifications and to obtain approvals prior to construction of the item.

- 1.14 Reference to Standard Specifications: When standard specifications such as The American Society for Testing and Materials, Federal Specifications, Department of Commerce (Commercial Standards), American Institute of Steel Construction, or other well known public or trade associates are cited as a standard to govern materials, and/or workmanship, such specifications or portions thereof as referred to shall be equally as binding and have the full force and effect as though it were copied into these specifications. Such standard as are mentioned are generally recognized by and available to the trades concerned.
- 1.15 Reference to Manufacture's Publications: Unless otherwise specifically stated, all manufacturer's catalogs, specifications, instructions or other information or literature that are referred to in the specifications shall be considered as the latest edition and/or revision of such publication that is in effect on the date of the Invitation or Advertisement for Bids.
- 1.16 Document Signatures: See General Conditions and Instructions to Bidders.
- 1.17. Materials Furnished by Others: Whenever the Contractor or any Subcontractor shall receive items from another contractor or from the Owner for storage, erection or installation, the Contractor or Subcontractor receiving such items shall give receipts for items delivered, and any necessary replacing of item or items received. No adjustment will be made to contract price for increased insurance premiums, except for materials and/or equipment furnished by the Owner and not listed as such in other Contract Documents.
- 1.18. Substitute Materials and Equipment: See Section 01631 Substitutions for more detail.
- Approval, by the Owners Representative, of substitute materials and equipment shall not relieve the Contractor from his responsibility to supply and install any additional materials, equipment, or labor required to make the substitution properly function within the intent of the Contract Documents, as issued for Bid, whether or not recognized by the Owners Representative or Contractor. The Contractor shall supply and install such required additional cost to the Owner.
- 1.19. Protection of Existing Structures: The Contractor shall be liable for all damage to existing structures that occurs as a result of his negligence to provide proper and adequate protective measures, including but not limited to buildings, walls, fences, paving, conduits, furniture, pipe, wiring, drains, underground utilities and equipment.
- The Contractor shall be liable for all damage to trees, shrubs, turf and other vegetation. See Tree Penalty Clause in Section 02112.
- 1.20. Security Considerations: Construction shall not interfere with reasonable access to other adjacent park facilities.
- 1.21. Working Hours: See General Conditions and Instructions to Bidders.
- 1.22. Order of Construction: Contractor shall submit a progress schedule at the pre-construction conference outlining the order of his construction process - Priorities within this schedule shall be coordinated with the Owner.

Sequence of Work. Work is to proceed in an orderly manner. The organization of the Specifications or contract drawings does not necessarily indicate the order or sequence in which work is to be performed. Contractor is expected to order his work so that he can maintain a continuous flow of completed work on site.

If prior construction or other contractors on the project site shall interfere with this work, the Landscape Architect shall declare the time and date when this project contract can be started on the site.

Contractor shall not be granted extensions or delay charges when it is deemed clearly that Contractor could have continued work on other components of the project or locations on the site without suffering a delay in the process.

- 1.23. Record of Construction Changes and As-Built Documents: On completion of the work, the Contractor shall mark the appropriate contract drawings in indelible ink showing the final locations of all underground installations if any. They also shall record the proper location of all installations above ground if they have been changed on the site from the designated locations on the plans on the contractor's construction drawings.

Contractor shall provide a flash drive containing the as-built plans to the Owner upon completion of the project.

- 1.24. Guarantee: See Section 017040 Warranties for more detail descriptions.
- 1.25. Application for Payment: See Section 01027 Application of Payment for detail instructions.
- 1.26. Certificates for Payment: Upon receipt of Application for Payment, Owner's Representative with the Landscape Architect shall make an inspection and issue to the Contractor a Certificate for Payment or state in writing to the Contractor a Certificate for Payment or state in writing to the Contractor the corrections which must be made according to the plans and Specifications before he shall be paid. These corrections shall be made at once, and the Owner's representative shall issue a Certificate for Payment on their acceptance. The Owner shall pay the full amount of the Certificate within fifteen (15) days after receiving the Certificate for Payment from the Owner's Representative.

1.27. Quantities and Measurements: Note to Contractor:

The quantities offered are provided for the benefit of the contractor to understand the magnitude of the project. The contractor is expected to develop his own quantities from his own design drawings to determine the actual cost of construction for the bid.

- 1.28. Maintenance: The Contractor shall be responsible for all maintenance, as required, until completion and acceptance of the work. Various items of maintenance are indicated in applicable sections of the Technical Specifications, to which the Contractor is referred. The Owner shall become responsible for maintenance upon completion and final acceptance of the work.

END OF SUPPLEMENTAL CONDITIONS

SECTION 01026

SCHEDULE OF VALUES

PART 1 GENERAL

1. SCOPE

The work under this Section includes preparation and submittal of a Schedule of Values.

The Construction Items Bid Schedule may substitute for the Schedule of Values when the project is bid by using a Construction Items Bid Schedule. In that case, Construction Items Bid Schedule can be substituted for Schedule of Values in this Section of the Specifications.

See Section 00-350 Construction Items Bid Schedule
See Section 01027 Application for Payment for more detail.

2. GENERAL

- A. Timing of Submittal: Submit to the Landscape Architect, a Schedule of Values allocated to the various portions work, within 10 days after Notice to Proceed. The first progress payment will not be made until the next pay cycle following the Landscape Architect's approval of the Contractor's Schedule of Values.
- B. Supporting Data: Upon request of the Engineer, support the values with data which will substantiate their correctness.
- C. Use of Schedule: The schedule of values, unless objected to by the Landscape Architect, shall be used only as a basis of the Contractor's Application for Payment.
- D. Construction Items Bid Schedule may serve as the Schedule of Values.
- E. Construction Items Bid Schedule form is available through the Consultant in Excel electronic format upon request.

3. FORM AND CONTENT OF SCHEDULE OF VALUES

- A. Form and Identification
 - 1. Prepare schedule of values on 8-1/2 x 11-inch paper in landscape format.
 - 2. Contractor's standard forms and automated printout may be used.
 - 3. Identify schedule with:
 - a. Title of project and location
 - b. Landscape Architect
 - c. Name and address of Contractor
 - d. Contract designation

c. Date of submission

- B. Schedule shall list the installed value of the component parts of the Work in enough detail to serve as a basis for computing values for progress payments during construction. Breakdown shall be by number and construction items, for ease of field verification of quantities completed in each line item. See Section 01027 Applications for Payment for more detail.
- C. Format
1. Follow the Construction Items Bid Schedule of the Contract Documents as the format for listing the component items quantities and costs.
 2. Identify each item with the number and name of the respective item on the Schedule.
- D. For each major line item, list sub-values of major products or operations under the items as shown on the Construction Items Bid Schedule and Bid Form.
- E. For the Various Portions of the Work:
1. Each construction item shall exclude any proportional amount of the Contractor's overhead and profit.
 2. For items on which progress payments will be requested for stored materials, break down the value into:
 - a. The cost of the materials delivered and stored, with taxes paid.
 - b. Total installed value, less Contractor's overhead and profit and less item a. stated above.
 - c. Copies of the delivery manifest and supplier invoice.
- A. Mobilization is identified as a separate line item that allows the contractor to bill ahead to secure operational capital to begin the project.
- B. Design and Permitting are identified as separate line items so the contractor can bill for that work once it is completed but before construction
- C. General Conditions and Overhead shall be shown as a percentage in a separate line item at the bottom of the Construction Items Bid Schedule and not calculated into the unit items costs.
- D. Additional Items: At the end of the Construction Items Bid Schedule the contractor may add additional line items that he feels are necessary or have not been broken down in line items that the contractor prefers.
- E. If the Construction Items Bid Schedule is used to bid the project, the Sum of all the values listed on the Construction Items Bid Schedule plus all addenda shall equal the Lump Sum Bid Total or Contract Amount as shown on the Bid Form.

END OF SECTION 01026

SECTION 01027

APPLICATIONS FOR PAYMENT

1.1 GENERAL

- A. Coordinate the Construction Items Bid Schedule (CIBS) and Applications for Payment with the Contractor's Schedule of Payment, Submittal Schedule, and List of Subcontracts.
- B. Coordinate preparation of the Construction Items Bid Schedule (CIBS) with preparation of the Contractor's Project Construction Schedule of Work.
 1. Correlate line items in the Construction Items Bid Schedule (CIBS) with other required administrative schedules and forms, including:
 - a. Contractor's Project Construction Schedule.(Use the CIBS)
 - b. Application for Payment forms, including Continuation Sheets.
 - c. List of subcontractors and consultants.
 - d. List of products.
 - e. List of principal suppliers and fabricators.
 - f. Schedule of submittals.
 - g. Schedule of materials stored
 2. Submit the Project Construction Timeline Schedule at the earliest possible date but no later than 7 days before the date scheduled for submittal of the first Application for Payment.
- C. Format and Content: Use the Construction Items Bid Schedule as the format for establishing the Schedule of Payment. Provide at least one-line item for each Unit Item on the Construction Items Bid Schedule as a payment item.
 1. Include the following Project Identification
Murphey Candler Park North Boardwalk - City of Brookhaven –
 - a. Project name and location – *North Boardwalk*
 - b. Name of Consultant – *CPL Inc.*
 - c. Project number. *See Instructions to Bidders*
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange the Schedule of Payment items in tabular form with separate columns to indicate the following for each item listed:
 - a. Item number.
 - b. Name of the item.
 - c. Total quantity of the item.
 - d. Unit price.
 - e. Total price.

- f. Current work completed by dollar value.
 - g. Previous dollar amount completed.
 - h. Percentage of Item Sum completed to nearest one-hundredth percent.
3. Provide separate backup for each part of the Work where the Application for Payment includes materials or equipment, purchased or fabricated and materials stored, but not yet installed.
 4. Change Orders or Construction Change Directives that change the Contract Sum must be pre-approved before commencing the work or applying for payment. Pre- approved change orders may be attached to the application for payment as a new items line at the bottom of the Payment Schedule after completion and acceptance of the change order work.
 5. Maintain a chronological and on-going Ledger List of minor field deletions or additions to the contract to be attached to each payment request.
 6. Consultant can provide a sample Pay Request if requested by contractor.
- D. Applications for Payment shall be consistent with previous applications and payments as certified by the Owner's Representative and paid to date by the Owner.
- E. Payment-Application Times: Payment dates are indicated in the Agreement. The period covered by each application is the period indicated in the Agreement.
- F. Payment-Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form for Applications for Payment, or the form supplied by the Owner.
- G. Application Preparation: Complete every entry, including notarization and execution by a person authorized to sign on behalf of the Contractor. The Landscape Architect will return incomplete applications without action.
1. Entries shall match data on the Schedule of Payment and the Contractor's Construction Items Bid Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives approved prior to the last day of the construction period covered by the application.
- H. Transmittal: Submit 3 executed original copies of each Application for Payment to the Owner's Representative within 24 hours. One copy shall be complete, including waivers of lien and similar attachments.
1. Transmit each copy with a transmittal listing attachments and recording appropriate information related to the application.
- I. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of lien from every entity who may file a lien arising out of the contract and related to the work covered by the payment.

1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
2. When an application shows completion of an item, submit final or full waivers.
3. Submit each Application for Payment with Contractor's waiver of lien for the period of construction covered by the application.
Submit final Applications for Payment with final waivers from each entity involved with performance of the Work who may file a lien.
4. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to the Owner.

J. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:

Provisions of the contract regarding payment shall supersede any applicable provisions of the Georgia Prompt Payment Act.

1. List of subcontractors.
2. List of principal suppliers and fabricators.
3. Schedule of Payments.
4. Contractor's Construction Schedule (*preliminary if not final*).
5. Submittal Schedule (*preliminary if not final*).
6. List of Contractor's staff assignments.
7. Copies of necessary building permits.
8. Copies of required licenses from governing authorities.
9. Certificates of insurance and insurance policies.
10. Performance and payment bonds.
11. Traffic control plan. *If required*

K. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

1. Administrative actions and submittals that shall precede or coincide with this application include the following:

Provisions of the contract regarding payment shall supersede any applicable provisions of the Georgia Prompt Payment Act:

- a. Occupancy permits.
- b. Warranties and maintenance agreements.
- c. Test/adjust/balance records.
- d. Maintenance instructions.
- e. Meter readings.
- f. Changeover information related to Owner's occupancy.
- g. Final cleaning.
- h. Application for reduction of retainage and consent of surety.

- I. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:
- L. Retainage: Client shall retain 10% of all approved pay requests until substantial completion of the project. Retainage may drop to 5% until final inspection and acceptance with approval of the Owner.
1. Completion of Project closeout requirements.
 2. Completion of items specified for completion after Substantial Completion.
 3. Transmittal of Project construction records to the Owner.
 4. Certified As-Built survey.
 5. Proof that taxes, fees, and similar obligations were paid.
 6. Removal of temporary facilities and services.
 7. Change of door locks to Owner's access.
 8. Fulfillment of all erosion control measures.
- M. Final Ledger: Contractor shall request payment for 100% of all construction items as shown on the Construction Schedule and Payment Request. The final tabulation of the ledger will be either a subtraction from the total contract or an addition. In the case of subtractions, the contractor shall enter the total deleted at the bottom of the request. In the case of an addition, the Landscape Architect shall prepare a final change order for approval by the Contractor and Owner.
- 1.2 PRODUCTS (Not Applicable)
- 1.3 EXECUTION (Not Applicable)

END OF SECTION 01027

SECTION 01035

MODIFICATION PROCEDURES

1.1 GENERAL

- A. Minor Changes in the Work: The Landscape Architect will issue instructions agreeing to changes in the Work that do not alter the contract amount on AIA Form G710.
- B. Contractor Initiated Changes in the Work: When changes in the work are required in the work due to fault of the Design work provided by the Design/Build contractor, there shall be no additional compensation.
- C. Owner-Initiated Change Order Proposal Requests: The Landscape Architect will issue a description of proposed changes in the Work that require adjustment to the Contract Sum or Time. The description may include supplemental or revised Drawings and Specifications.
 - 1. Proposal requests are for information only (RFI). Do not consider them an instruction to stop work or to execute the proposed change.
 - 2. Within 20 days of receipt of a Change Request, submit an estimate of costs necessary to execute the change for the Owner's review.
 - a. Include an itemized list of products required and unit costs, with the total amount of purchases.
 - b. Use unit costs from the Schedule of Values. If unit costs have to change, submit detail documentation to explain the need to change a unit price.
 - c. Indicate taxes, delivery charges, equipment rental, and trade discounts.
 - d. Indicate the effect the change will have on the Contract Time.
- D. Contractor-Initiated Proposals: When unforeseen conditions require modifications, the Contractor may submit a request for a change to the Landscape Architect.
 - 1. Describe the proposed change. Indicate reasons for the change and the effect of the change on the Contract Sum and Time.
 - 2. Include an itemized list of products required and unit costs, with the total amount of purchases.
 - 3. Indicate taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Additional work already included on the Schedule of Values shall be submitted at the same price as originally quoted unless otherwise agreed prior to submittal.
- E. Proposal Request Form: Use AIA Document G709.
- F. Allowance Adjustment: Base Change Order Proposals on the difference between the purchase amount and the allowance, multiplied by the measurement of work-in-place. Allow for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

1. Include installation costs only where indicated as part of the allowance.
 2. Prepare explanations and documentation to substantiate margins claimed.
 3. Submit substantiation of a change in work claimed in the Change Orders related to unit-cost allowances and quantities.
- G. Submit claims to increase costs due to a need to change an allowance, whether for purchase order amount or handling, labor, installation, overhead, and profit. Submit claims within 21 days of receipt of authorization to proceed. The Owner will reject claims submitted later than 21 days.
1. Do not include indirect expense in cost amount unless the Work has changed from that described in Contract Documents.
 2. No change to indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.
- H. Construction Change Directive: When Owner and Contractor disagree on the terms of a Proposal Request, the Architect may issue a Construction Change Directive on AIA Form G714 instructing the Contractor to proceed with a change.
1. The Construction Change Directive contains a description of the change and designates the method followed to determine change in the Contract Sum or Time.
- I. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
1. After completing the change, submit an itemized account and supporting data to substantiate Contract adjustments.
- J. Change Order Procedures: Upon the Owner's approval of a Proposal Request, the Architect will issue a Change Order on AIA Form G701.
- K. Contractor shall submit Requests for Information (RFI) whenever items or parts of the central documents are unclear or incorrect. Contractor shall maintain a list of Requests by number and date with responses from the Architect.
- L. Unit Item Cost: When changes effect unit items for which costs have already been established, change request must utilize the agreed unit prices for additions or deletions.
- M. Unit Item Cost Changes: Unit item costs previously accepted by the Owner may be subject to change if the contractor submits sufficient documentation to verify the need for such a change.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION (Not Applicable)

END OF SECTION 01035

SECTION 01040

COORDINATION

1.1 GENERAL

- A. This Section includes requirements for coordinating construction operations including, but not necessarily limited to, the following:
1. Coordination drawings.
 2. Administrative and supervisory personnel.
 3. Coordinate with Project Landscape Architect/Engineer.
 4. Clearing and protection.
 5. Coordinating with Property Officer or Owner's Representative
 6. Staking Layout and Utility Locations
 7. Coordination with geotechnical engineer.
 8. Coordination with the suppliers to deliver materials to the site.
 9. Coordination between various sub-contractors.

1.2 COORDINATION

- A. Coordinate construction to assure efficient and orderly installation of each portion of the Work. Coordinate operations that depend on each other for proper installation, connection, and operation.
1. Schedule operations in a sequence required to obtain the best results where installation of one part depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components to assure maximum accessibility for maintenance, service, and repair.
 3. Make provisions to accommodate items scheduled for later installation.
 4. Schedule operations with Parks Director to avoid interference with pre-scheduled events.
 5. Coordinate with local permitting agencies to secure approvals for the work.
- B. Where necessary, prepare memoranda for distribution to each party involved, outlining procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
1. Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.
 2. Notify Owner when pre-scheduled operations may constitute a hardship for the contractor.
 3. Prepare weekly reports during construction to be given to industrial park tenant
- C. Administrative Procedures: Coordinate scheduling and timing of required procedures with other activities to avoid conflicts and assure orderly progress. Such activities include, but are not limited to, the following:

1. Preparation of schedules.
 2. Delivery of materials and processing of submittals.
 3. Progress meetings.
 4. Project closeout activities
- D. Conservation: Coordinate construction to assure that operations are carried out with consideration for conservation of energy, water, and materials.
1. At the request of the Owner, salvage materials involved in performance of, but not incorporated in, the Work.
 2. Deliver salvaged items to location to be specified by the owner.
- E. Coordination Drawings: Prepare coordination drawings if needed for installation of products and materials supplied by separate entities. Prepare coordination drawings where limited space necessitates maximum utilization of space for efficient installation of different components.
1. Show the relationship of components shown on separate shop drawings.
 2. Indicate required installation sequences.
 3. Comply with requirements contained in Section "*Submittals*."
- F. Staff Names: On date of Pre-Construction meeting, submit a list of the Contractor's staff assignments, including the superintendent and other personnel assigned to the Project. Identify individuals and their responsibilities. List their addresses and telephone numbers.
1. Provide copy of list to the owner and Landscape Architect/Engineer.
 2. Post copies in the Project meeting room, the temporary field office, and each necessary telephone number.
 3. Contractor shall always maintain a list of site tenants and their contact information on site in the construction trailer.
- G. Subcontractor Assistance:
It is the Contractor's duty to coordinate with his subcontractors in advance so that pipe holes, sleeves, inserts, etc., for subcontractors are installed as work progresses. This includes coordination with other independent Contractors working on related work.

1.3 **PRODUCTS** (Not Applicable)

1.4 **EXECUTION**

- A. Inspection of Conditions: Require Installers of major components to inspect substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected. Provide photographs and daily reports of the inspected conditions.

- B. Coordinate temporary enclosures with inspections and tests to minimize the need to uncover completed construction.
- C. Clean and protect construction in progress and adjoining materials, during handling and installation. Apply protective covering to assure protection from damage.
- D. Coordinate with the environmental inspections and erosion control inspections.
- E. Contractor shall mark the critical setbacks to be visible to the inspectors.
- F. Clean and maintain completed construction as necessary through the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- G. Limiting Exposures: Supervise construction to assure that no part is subject to harmful, dangerous, or damaging exposure. Such exposures include, but are not limited to, the following:
 - 1. Excessive static or dynamic loading.
 - 2. Excessive internal or external pressures.
 - 3. Excessively high or low temperatures.
 - 4. Water exposure
 - 5. Solvents and chemicals.
 - 6. Abrasion.
 - 7. Soiling, staining, and corrosion.
 - 8. Combustion.

END OF SECTION 01040

SECTION 01050

FIELD ENGINEERING

1.1 GENERAL

- A. This Section specifies requirements for field-engineering and surveyor services including, but not limited to, the following:
 - 1. Geotechnical monitoring.
 - 2. Field adjustments to layout and elevations.
 - 3. Erosion Control measurements.
 - 4. Trail and abutment installation
 - 5. Pile driving operations
- B. Submit a certificate certifying location and elevation of improvements.
- C. Project Record Documents: Submit a record of Work performed and record copy of survey data collected in the field. TerraMark has already surveyed the entire site and the survey is available to the contractors in Cad format upon request.
- D. Contractor may request a copy of the conceptual drawings in CAD format from the city if desired.
- E. Surveyor Qualifications: Engage a land surveyor registered in the state where the Project is located.
- F. Geotechnical Data: When required, engage qualified Geotechnical Engineers familiar with the conditions of the site and approved by the Owner.
- G. Professional Design Services: Secure or have on staff design consultants and engineers licensed in the state and approved by the Owner.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION

- A. Identification: Surveyor will identify existing control points, buffers, and property line corner stakes. Boundaries are indicated on the existing survey by TerraMark.
- B. Contractor shall establish a benchmark for static pool level of the lake, 2-year flood level, 10-year flood level, and 100-year flood level to be used for reference during the field adjustment stakeout.
- C. Stakeout: Contractor shall stake out the entire project relative to location and elevation of the finished deck as shown on the Design Development plans. Contractor and Client representative shall walk the site and determine the best elevation for the deck relative to flood levels and ground levels. These adjustments shall determine the type of rail to be used. All decks over 30" above natural grade or above standing

water shall have a 42” guardrail in place. This stakeout shall be used to determine the final location and elevation of the following:

Deck elevations.
Final Railing locations

- D. Verify layout information, in relation to property survey and existing benchmarks, before proceeding to lay out the Work. Locate and protect existing benchmarks and control points. Preserve permanent reference points during construction.
 - 1. Do not change or relocate benchmarks or control points without written approval. Report destroyed reference points or requirements to relocate reference points because of changes in grades.
 - 2. Replace destroyed Project control points. Base replacements on the original survey control points and property corner pins.
- E. Field locate any stream buffer lines on the ground to use as reference during staking.
- F. Existing Utilities: The non-existence of underground utilities and construction is not guaranteed. Verify location of underground utilities and other construction before beginning pile driving work.
- G. Work from lines and levels established by the property survey. Establish benchmarks and markers to set lines and levels at each story of construction and to locate each element. Calculate and measure required dimensions within indicated or recognized tolerances. Do not scale Drawings to determine dimensions.
 - 1. Advise entities engaged in construction activities of marked lines and levels provided for their use.
 - 2. As construction proceeds, check every element for line, level, and plumb.
- H. Surveyor's Log: Maintain a surveyor's log of control and other survey work. Make this log available for reference.
 - 1. Record deviations from lines and levels. Advise the Architect when deviations exceed tolerances. On Project Record Drawings, record deviations that are accepted and not corrected.
 - 2. On completion of foundation piles, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and site work.
- I. Site Improvements: Locate and lay out site improvements, including pavements, grading stakes, fill placement, conduit locations, utility routes, and invert elevations.
- J. Existing Utilities: There are not any assumed utilities on the effected site. Coordinate with local authorities and utility providers having jurisdiction to be sure.
- K. Geotechnical Monitoring: Contractor shall coordinate the services of the Owner's Geotechnical Engineer and his team Geotechnical Engineer to take the soil borings

necessary to verify the construction requirements for the following project elements are acceptable.

1. Piles / foundations.
 2. Abutment foundations.
- L. Subsurface Conditions: Contractor is responsible to correct all subsurface conditions necessary to ensure the structural integrity of all elements of the project. Reference each section of the Technical Specifications for detailed execution requirements.
- M. Contractor may secure additional geotechnical borings to ensure the bearing capacity of the existing soil prior to construction. If soil bearing is below the expected bearing capacity as indicated in the provided soil borings, then the contractor and Owner will need to discuss adjusting the contract.

END OF SECTION 01050

SECTION 01095

REFERENCE STANDARDS AND DEFINITIONS

1.01 GENERAL

- A. Definitions: Basic contract definitions are included in the Conditions of the Contract.
- B. "Indicated" refers to graphic representations, notes, or schedules on the Construction Drawings; or to other paragraphs or schedules in the Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference. Location is not limited.
- C. Where the word or words "as directed", "as required", "as approved", "as permitted" "as selected", "as requested", "as authorized", or words of like effect are used in the specifications or on the drawings, the Contractor shall understand that direction, requirement, approval or permission of the Landscape Architect is intended. Similar words "approved", "acceptable", "satisfactory", or words of like import mean approved by, acceptable to or satisfactory to the Landscape Architect.
- D. "Approved": When used in conjunction with the Project Landscape Architect's action on the Contractor's submittals, applications, and requests, is limited to the Project Landscape Architect's duties and responsibilities as stated in the Conditions of the Contract.
- E. "Regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the work.
- F. "Furnish" means to supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install" describes operations at the project site including the actual unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide" means to furnish and install, complete and ready for the intended use.
- I. "Installer" is the Contractor, or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, who performs a particular construction activity including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.

1. The term "experienced," when used with the term "installer," means being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
 2. Using terms such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter."
- J. "Project Site" is the space available to the Contractor for performing construction activities, either exclusively or in conjunction with others performing work as part of the project. The extent of the project site is shown on the Construction Drawings and may or may not be identical with the description of the land on which the project is to be built.
- K. "Testing Agencies": A testing agency is an independent entity engaged to perform specific inspections or tests, either at the project site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.
- L. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 16-division format and "Master Format" numbering system.
1. Abbreviated Language: Language used in the Specifications is abbreviated. Words implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
 2. Streamlined language is generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
- M. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- N. Publication Dates: Comply with the standards in effect as of the date of the Contract Documents.

- O. Copies of Standards: Copies of applicable standards are not bound with the Contract Documents. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source and make them available on request.
- P. Abbreviations and Names: Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards-generating organization, authorities having jurisdiction, or other entity applicable to the context of the text provision. Refer to Gale Research Inc.'s "Encyclopedia of Associations," which is available in most libraries.
- Q. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the work.
- R. Engineer, Architect, Landscape Architect, all indicate the design consultants responsible to the Owner for observing the construction of the project.
- Q. Staff or Team Engineer, Geotech, all indicate members of the contractors team responsible for observing and assisting the construction of the project.

1.02 PRODUCTS (Not Applicable)

1.03 EXECUTION (Not Applicable)

END OF SECTION 01095,

SECTION 01200

PROJECT MEETINGS

1.1 GENERAL

- A. This Section specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
1. Final design plans conferences.
 2. Preconstruction conference
 2. Preinstallation conferences.
 3. Progress meetings.
 4. Weather Records and Calendar
 5. Special sub-contractor pre-installation meetings
 6. Final punch list inspection
- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction. Review responsibilities and personnel assignments.
- C. Attendees: Authorized representatives of the Owner, Landscape Architect, and their consultants; the Contractor and its superintendent; major subcontractors; and other concerned parties shall attend.
1. Participants shall be familiar with the design and project and authorized to conclude matters relating to the Work.
 2. Contractor shall maintain a full scale set of approved construction plans and specifications on site at all times.
- D. Agenda: Discuss items that could affect progress, including the following:
1. Tentative construction schedule.
 2. Critical work sequencing.
 3. Submittal of Shop Drawings, Product Data, and Samples.
 4. Use of the premises.
 5. Special Feature schedules
 6. Weather conditions, flooding levels, and schedule
 7. Sequencing
- re
- E. Preinstallation Conferences: Conduct a conference before each activity that requires coordination with other operations.
- F. Attendees: The Installer and representatives of manufacturers and fabricators involved in or affected by the installation shall attend. Advise the Landscape Architect and Owners Representative of scheduled meeting dates.
1. Review the progress of other operations and preparations for the activity under consideration at each preinstallation conference, including requirements for the following:

- a. Compatibility problems and acceptability of substrates.
 - b. Time schedules and deliveries.
 - c. Manufacturer and Supplier's recommendations.
 - d. Warranty requirements.
 - e. Inspecting and testing requirements.
 - f. Materials verifications
2. Record significant discussions and agreements and disagreements, and the approved schedule. Promptly distribute the record of the meeting to everyone concerned, including the Owner's Representative and the Landscape Architect.
 3. Do not proceed with the installation if the conference cannot be successfully concluded. Initiate actions necessary to resolve problems and reconvene the conference.
- G. Progress Meetings: Conduct progress meetings at the Project Site at regular intervals as agreed in the contract. Notify the Owner's Representative and the Landscape Architect of scheduled dates. Coordinate meeting dates with preparation of the Payment Request.
- H. Attendees: The Owner's Representative, Landscape Architect, and other entities concerned with current progress or involved in planning, coordination, or future activities shall be represented. Participants shall be authorized to conclude matters relating to the Work.
- I. Agenda: Review and correct or approve minutes of the previous meeting. Review items of significance that could affect progress. Include topics for discussion appropriate to Project status.
1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule. Determine how to expedite construction behind schedule; secure commitments from parties involved to do so. Discuss revisions required to ensure subsequent activities will be completed within the Contract Time.
 2. The schedule shall indicate the dates for the starting and completion of various stages of construction and shall be revised monthly as required by the conditions of the work.
 3. Review the present and future needs of each entity present, including the following:
 - a. Time.
 - b. Sequences.
 - c. Status of submittals.
 - d. Materials deliveries and off-site fabrication issues.
 - e. Temporary facilities and services.
 - f. Quality and work standards.

- g. Change Orders.
 - h. Daily reports and weather conditions
 - i. Shop drawings and submittals
 - j. Onsite inspections and adjustments
3. Reporting: Distribute meeting minutes to each party present and to parties who should have been present. Include a summary of progress since the previous meeting and report.
 4. Schedule Updating: Revise the Contractor's Construction Schedule after each meeting where revisions have been made. Issue the revised schedule concurrently with the report of each meeting.
 7. Record Drawings: Contractor shall maintain a current, complete and approved set of all Contract Documents and Specifications on-site at all times.
 8. Review 'Requests for Information' and resolve.
 9. Review 'Change Orders' and resolve.
 10. Review pay requests and schedule of payments.
 11. Resolve on-site issues and adjustments.
 12. Review weather reports and status of schedule and delays.
- J. Daily Construction Reports: Contractor shall prepare a daily report recording events on the site. Submit duplicate copies to the Landscape Architect at weekly intervals. Include the following information:
1. Daily record showing work engaged, completed, and started
 2. List of subcontractors on the job
 2. High and low temperatures, general weather conditions.
 3. Accidents and unusual events.
 4. Stoppages, delays, shortages, and losses.
 5. Meter readings and similar recordings.
 6. Emergency procedures.
 7. Orders and requests of governing authorities.
 8. Services connected, disconnected.
 9. Equipment or system tests and startups.
 10. Substantial Completions authorized
 11. Materials delivered or stored
 12. Inspection or testing completed
 13. Any official visitors to the site
- K. Construction Records: Contractor shall maintain the following reports and records for review at each Program Meeting. See Section 1300 submittals for more detail of each report.
1. As Built Field Set:
Set of approved plans kept inside for the purpose of updating and recording all changes and modifications. Update with red lines to record changes as they occur. Update with red lines to record changes as they occur. Said redlines must be issues in Meeting Minutes. Redline changes on the drawings must be signed and dated by the person authorizing the change.

2. Request for Information (RFI) Book:
Sequential record of all requests and their subsequent answers.
3. Shop drawings and approved site field changes
4. Documents and Samples of special product to the Site:
5. Change Orders:
Sequential record of all accepted or pending change orders with backup data.

L. Documents and Samples at the Site:

In addition to instruments mentioned in this section, include copies of all Requests for Payment and correspondence between Landscape Architect and Contractor. Maintain all copies in orderly files in Contractor's job site office. Records shall be available for reference during all on-site project meetings.

Samples and certification tags on materials delivered must be maintained on site thru the duration of the project.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION (Not Applicable)

END OF SECTION 01200

SECTION 01220

UNIT PRICES

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.
- B. See Construction Items Bid Schedule in the Instructions to Bidders in Division 1.

1.2 SUMMARY

- A. This Section includes:
 - 1. Contractor to modify Unit Items Construction Schedule to match his design build items and quantities
 - 2. Unit price work as shown at the bottom of the Construction Items Bid Schedule.
 - 3. List of unit prices required.
 - 4. Procedures for unit price work.

1.3 DEFINITIONS

- A. Unit price is an amount proposed by bidders, as stated on the Bid Form and Construction Items Bid Schedule, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 SUBMITTALS

- A. Supporting Data: When applications for payment include unit price work submit substantiated measurement of quantity installed or executed.

1.5 PROCEDURES

- A. Unit Prices include all costs necessary to satisfactorily complete the work identified, including materials, delivery, labor, and installation. Insurance, overhead, profit and other General Conditions are shown separately as a percentage added.
- B. Measurement and Payment: Refer to the individual Specification Sections for work that requires establishment of a unit price. Methods of measurement and payment for unit price items are specified in this section.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and the right to have such work measured, at

Contractor's expense, by an independent surveyor acceptable to Owner.

- D. List of Unit Prices: A list of unit prices is included as part of the Construction Items Bid Schedule. Specification Sections and details are referenced on the bid schedule that identifies requirements for materials described under each unit price item.
- E. Unit Price Quantities: In case of unit price quantity discrepancies between Bid Form, Construction Items Bid Form and this form, or any other section, the unit price quantities stated in this section shall prevail.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

A. **Unit Price a: Deck, Frame & piles typical section is 10' x 8';**

1. Description: Construction of additional boardwalk or deck if requested by client during the construction. Construction to include and match the existing deck as designed and structured.
2. Purpose: To adjust the contract sum when additional deck is needed or requested beyond the quantity bid, and a new quantity is determined.
3. Unit of Measurement: Square Foot of deck area constructed.
4. Quantity to be included in Contract Sum: An **8' x 10' area of 80 sf as an Allowance:**
5. Include all the following in the unit price: Clearing, designing, piles, frames and decking as connected to the existing and contracted deck areas.
6. Overhead and profit to show as a separate percentage on the change order.
7. Include all other costs in contract prices of the new sum.
8. Method of measurement: Measurement will be made as outlined in the project specifications and verified by the owner in the field. (*Paid for what is built*)

B. **Unit Price: Additional pile length:**

1. Description: For unknown conditions beyond the soil borings data that will require additional pile lengths beyond those bid in the contract in order to reach stabilization.
2. Purpose: To adjust the contract sum when actual quantity is determined in the field.
3. Unit of Measurement: Linear Foot longer for per pile extended.
4. Quantity to be included in Contract Sum: **100 LF Allowance**
5. Include only the following in the unit price: Length of physical pile material and installation cost.
6. If allowance is exceeded, additional piles can be charged at the unit cost of each lf extended.
7. Overhead and profit to show as a separate percentage on the change order.
8. Include all other costs in unit price contract sum.
9. Method of measurement: Measurement will be made as outlined in the project specifications and verified by the owner. (Pile log book per pile)

C. Unit Price: Additional Soil Borings

1. Description: If additional soil borings are needed to determine the subsurface conditions of areas of unexpected lack of stability.
2. Purpose: To adjust the contract sum when and actual in field quantity is determined based on field conditions and location of additional soil borings.
3. Unit of Measurement: One 80' deep boring with a rig truck on site. :
4. Quantity to be included in Contract Sum: **15 ea. Allowance:**
5. Include only the following in the unit price: Determination of need, clearing for access, environmental protection, boring rig, boring, and report.
6. Additional borings will be determined at the cost per boring.
7. Overhead and profit are included as a separate percentage.
8. Include all other costs in contract sum.
9. Method of measurement: Measurement will be made as outlined in the specifications and verified by the owner.

D. Unit Price: Additional 42" guardrail

1. Description: Construction of additional guardrail on the boardwalk or deck where elevations above grade exceed 30" above existing ground and is needed for safety codes.
2. Purpose: To adjust the contract sum when actual quantity is determined in the field.
3. Unit of Measurement: Linear Foot of 42" ht railing.
4. Quantity to be included in Contract Sum. 25 typical 4' long sections equaling a **100 LF** allowance.
5. Include only the following in the unit price: Materials and construction of the guardrail per detail; attached to the boardwalk
6. Overhead and profit are included as a separate percentage in the change order.
7. Include all other costs in contract unit sum.
8. Method of measurement: Measurement will be made as outlined in the project specifications and verified by the owner. (pay for length built)

END OF SECTION 01220

SECTION 01300

SUBMITTALS

1.1 GENERAL

- A. Submittal Procedures: Coordinate submittal preparation with construction, fabrication, other submittals, and activities that require sequential operations. Transmit in advance of construction operations to avoid delay.
1. Coordinate submittals for related operations to avoid delay because of the need to review submittals concurrently for coordination. The Landscape Architect reserves the right to withhold action on a submittal requiring coordination until related submittals are received.
 2. Processing: Allow 2 weeks for initial review. Allow more time if the Landscape Architect must delay processing to permit coordination. Allow 2 weeks for reprocessing.
 - a. No extension of Contract Time will be authorized because of failure to transmit submittals sufficiently in advance of the Work to permit processing.
 3. Submittal Preparation: Place a permanent label on each submittal for identification. Provide a 4 by 5-inch (100- by 125-mm) space on the label or beside title block to record review and approval markings and action taken. Include the following information on the label for processing and recording action taken.
 - a. Project name.
 - b. Date.
 - c. Name and address of the Architect/Landscape Architect.
 - d. Name and address of the Contractor.
 - e. Name and address of the subcontractor.
 - f. Name and address of the supplier.
 - g. Name of the manufacturer.
 - h. Number and title of appropriate Specification Section.
 - i. Drawing number and detail references, as appropriate.
 4. Submittal Transmittal: Package each submittal appropriately. Transmit with a transmittal form. The Architect will not accept submittals from sources other than the Contractor.
 5. Transmittal Form: Use AIA Document G810. On the form, record requests for information and deviations from requirements. Include Contractor's certification that information complies with requirements.

- B. Contractor's Construction Schedule: Prepare a horizontal bar-chart-type, contractor's construction schedule. Provide a separate time bar for each activity and a vertical line to identify the first working day of each week. Use the same breakdown of Work indicated in the "Schedule of Values." See Section 01026 Indicate estimated completion in 10 percent increments. As Work progresses, mark each bar to indicate actual completion.
1. Submit on date of Pre-Construction Meeting.
 2. Prepare the schedule on stable transparency, or other reproducible media, of width to show data for the entire construction period.
 3. Secure performance commitments from parties involved. Coordinate each element with other activities; include minor elements involved in the Work. Show each activity in proper sequence. Indicate sequences necessary for completion of related Work.
 4. Coordinate with the Schedule of Payment, list of subcontracts, Submittal Schedule, payment requests, and other schedules.
 5. Indicate completion in advance of Substantial Completion. Indicate Substantial Completion to allow time for the Architect's procedures necessary for certification of Substantial Completion.
 6. Phasing: Show how phased completion affects the Work.
 7. Work Stages: Indicate important stages for each portion of the Work.
 8. Area Separations: Provide a separate time bar to identify each construction area for each portion of the Work. Indicate where each element must be sequenced with other activities.
- C. Submittal Schedule: After developing the Contractor's Construction Schedule, prepare a schedule of submittals. Submit within 10 days of submittal of the Construction Schedule.
1. Coordinate with list of subcontracts, Schedule of Values, list of products, and the Contractor's Construction Schedule.
 2. Prepare the schedule in chronological order. Provide the following information:
 - a. Date for first submittal.
 - b. Related Section number.
 - c. Submittal category (Shop Drawings, Product Data, or Samples).
 - d. Name of the subcontractor.
 - e. Description of the Work covered.
 - f. Date for the Contractors final Design/Build drawing set.
 3. Schedule Distribution: Distribute copies of the Contractor's Construction Schedule and the Submittal Schedule to the Architect, Owner, subcontractors, and parties required to comply with submittal dates. Post copies in the field office.
 - a. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their Work and are no longer involved in construction activities.

- b. Updating: Revise the schedule after each meeting or activity where revisions have been made. Issue the updated schedule concurrently with thereport of each meeting.
- D. Daily Construction Reports: See Section 1200 for more detail
- E. Shop Drawings: See Section 01340 for more detail about Shop Drawings. See Shop Drawings in respective Technical Sections as identified.

Do not use Shop Drawings without an appropriate final stamp indicating action taken.

- F. Product Data: Collect Product Data into a single submittal for each element of construction. Mark each copy to show applicable choices and options. Where Product Data includes information on several products, mark copies to indicate applicable information.
 - 1. Include the following information:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with trade association standards or certifications.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
 - f. Notation of coordination requirements.
 - 2. Preliminary Submittal: Submit a preliminary single copy of Product Data where selection of options is required.
 - 3. Submittals: Submit 2 copies; submit 4 copies where required for maintenance manuals. The Landscape Architect will retain one and return the other marked with action taken.
 - a. Unless noncompliance with Contract Documents is observed, the submittal serves as the final submittal.
 - 4. Distribution: Furnish copies to installers, subcontractors, suppliers, and others required for performance of construction activities. Show distribution on transmittal forms. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
 - a. Do not use unmarked Product Data for construction.
- G. Samples: Submit full-size Samples finished as specified and identical with the material proposed. Mount Samples to facilitate review of qualities.
 - 1. Include the following:
 - a. Specification Section number and reference.
 - b. Generic description of the Sample.

- c. Sample source.
 - d. Product name or name of the manufacturer.
 - e. Compliance with recognized standards.
 - f. Availability and delivery time.
 2. Submit Samples for review of size, kind, color, pattern, and texture, for a check of these characteristics, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed. Where variations are inherent in the material, submit at least 3 units that show limits of the variations.
 - a. Refer to other Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar characteristics.
 - b. Refer to other Sections for Samples to be incorporated in the Work. Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
 - c. Samples not incorporated into the Work, or designated as the Owner's property, are the Contractor's property and shall be removed from the site.
 3. Preliminary Submittals: Submit a full set of choices where Samples are submitted for selection of color, pattern, texture, or similar characteristics from standard choices. The Architect will review and return submittals indicating selection and other action.
 4. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit 3 sets. One set will be returned marked with the action taken. Maintain sets of Samples, at the Project Site, for quality comparison.
 - a. Unless noncompliance with Contract Documents is observed, the submittal may serve as the final submittal.
 - b. Sample sets may be used to obtain final acceptance of the construction associated with each set.
 5. Distribution of Samples: Distribute additional sets to subcontractors, manufacturers, and others as required for performance of the Work. Show distribution on transmittal forms.
- H. Quality Assurance Submittals: Submit quality-control submittals, including design data, certifications, manufacturer's instructions, and manufacturer's field reports required under other Sections of the Specifications.
1. Certifications: Where certification that a product or installation complies with specified requirements is required, submit a notarized certification from the manufacturer certifying compliance.
 - a. Signature: Certification shall be signed by an officer authorized to sign documents on behalf of the company.

- I. Sample Panels:
 - 1. Contractor shall construct sample panels in accordance with the Technical Specifications for review and approval by Landscape Architect.
 - 2. Samples shall be prepared in advance of construction sequencing to allow time for modifications and approvals.
 - 3. Contractor shall allow Landscape Architect five days to respond to a request to see a sample.
 - 4. Full scale construction of any work requiring a pre-approved sample shall not begin until after Landscape Architect or Owners Representative issues a statement of approval.

- J. Architect's Action: Except for submittals for the record or information, where action and return are required, the Architect will review each submittal, mark to indicate action taken, and return. Compliance with specified characteristics is the Contractor's responsibility.
 - 1. Action Stamp: The Architect will stamp each submittal with an action stamp. The Architect will mark the stamp appropriately to indicate the action taken.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION (Not Applicable)

END OF SECTION 01300

SECTION 01345

PROJECT DRAWINGS

PART 1 GENERAL

1.01 SCOPE

- A. Project Drawings: The work under this Section includes preparation and submittal to the Owner's Representative and the City of Brookhaven and all other relevant agencies, the project drawings necessary to secure the permits required for construction of the project.
- B. Permits to be acquired are, but may not be limited to:
 - 1. City of Brookhaven Land Disturbance Permit.
 - 2. GSWCC review of the plans for the City.
 - 3. Possible Dekalb County plan review.
 - 4. City of Brookhaven building permit for the boardwalk and deck.
 - 5. Collaboration with potential 'No Rise' certification that will be paid by the Client.
 - 6. Letter of 'Letter of No Permit' in the Appendix preempts the need for a ACOE permit or an EPD variance unless the contractor changes the intent of the conditions stated in the 'Letter of No Permit'.
- C. Electronic Submittals: The Client prefers electronic submittals of Drawings to the Client Website.
- D. Submittal Contents: The submittal contents required are specified in each section of the Project Manual Technical Specifications. Owner prefers electronic submittals.
- E. Project Drawings include typical sections and details of the proposed boardwalk, decks, rails and benches for reference relative to height and location. These details are provided to the contractor for use in understanding the extent of the design intent but need to be further developed to fit the Design Build approach of the contractor.
- F. Erosion Control: Contractor shall meet with Tim Ward of the City of Brookhaven to determine the type and extent of erosion control needed for the project.
- G. Construction Items Bid Schedule. A CIBS has been provided to the contractor as a convenience and to help define the intent of the project. The Design Build Contractor shall modify the CIBS to conform to their own design package, items, quantities and details as part of the Project Drawings.
- H. Technical Specifications: Contractor shall prepare revised or additional technical specifications for all materials and workmanship not covered by the project specifications issued by the City.

- I. Soil borings were taken and provided in the Appendix of this Project Manual. Contractor is free to use these borings or secure more on his own to determine his pile foundations.
- J. Contractor may need to submit Shop Drawings to the Client to further clarify any construction items during the process.
- K. Submittal Definitions: Submittals are categorized as follows:
 1. Shop Drawings
 - a. Shop drawings shall include technical data, drawings, diagrams, procedure and methodology, performance curves, schedules, templates, patterns, test reports, calculations, instructions, measurements and similar information as applicable to the specific item for which the shop drawing is prepared.
 - b. Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated) or appropriate number of prints hereof, with name or preparer (firm name) indicated. The Contract Drawings shall not be traced or reproduced by any method for use as or in lieu of detail Shop Drawings. Show dimensions and note dimensions that are based on actual field measurements. Identify materials and products in the work shown. Indicate compliance with standards and special coordination requirements. Do not allow shop drawings to be used in connection with the Work without appropriate final “Action” markings by the Project Landscape Architect for Owner’s Representative.
 2. Product Data
 - a. Product data includes standard printed information on materials, products and systems, not specially prepared for this project, other than the designation of selections from among available choices printed therein.
 - b. Collect required data into one submittal for each unit of work or system and mark each copy to show which choices and options are applicable to the Project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked and special coordination requirements.
 3. Samples
 - a. Samples include both fabricated and un-fabricated physical examples of materials, products and units of work, both as complete units and as smaller portions of units of work, either for limited visual inspection or, where indicated, for more detailed testing and analysis.
 - b. Provide units identical with final condition of proposed materials or products for the work. Include “range” samples, not less than three units, where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where the Project Landscape Architect's

selection is required. Prepare samples to match the Project Landscape Architect's sample where indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture and "kind" by the Project Landscape Architect. Project Landscape Architect will note "test" samples, except as otherwise indicated, for other requirements, which are the exclusive responsibility of the Contractor.

4. Miscellaneous submittals related directly to the Work (non-administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock, security/protection/safety keys and similar information, devices and materials applicable to the Work but not processed as shop drawings, product data or samples.

1.02 ROUTING AND SUBMITTALS

- A. Submittals and routine correspondence shall be routed as follows:
 1. Supplier to Contractor (through product representative if applicable)
 2. Contractor to Owner's Representative to review/approve submittals.
 3. Owner to forward to Landscape Architect or other project professionals prior to submitting back to Contractor if deemed necessary.
 4. Project Landscape Architect to Owner's Representative to Contractor
 5. Contractor back to Supplier

PART 2 PRODUCTS

2.01 Manufacturer's Literature

- A. Where content of submitted literature from manufacturers includes data not pertinent to this submittal, clearly indicate which portion of the contents is being submitted for the Owner's Representative and Project Landscape Architect's review.
- B. Submit the number of copies which are required to be returned (not to exceed (3) three) plus three copies which will be retained by the Owner's Representative.

2.02 Samples

- A. Samples shall illustrate materials, finishes, colors, equipment or workmanship and established standards by which completed work is judged.
- B. Unless otherwise specifically directed by the Owner or Project Landscape Architect, all samples shall be of the precise article proposed to be furnished.

- C. Submit all samples in the quantity which is required to be returned plus one sample which will be retained by the Owner's Representative.

2.03 Colors

A. Unless the precise color and pattern is specifically described in the Contract Documents, wherever a choice of color or pattern is available in a specified product, submit accurate color charts and pattern charts to the Owner's Representative for review and selection.

B. Unless all available colors and patterns have identical costs and identical wearing capabilities, and are identically suited to the installation, completely describe the relative costs and capabilities of each.

PART 3 EXECUTION

3.01 Project Drawings:

1. Final drawings to be prepared by a licensed engineer in the state of Georgia.
2. Drawings to be submitted to the City of Brookhaven for review and issuing of permits.
3. Additional Technical Specifications will be needed if they supersede the requirements of any of the specifications issued in the original bid.

3.02 Contractor's Coordination of Submittals

- A. Prior to submittal for the Owner's Representative to review, the Contractor shall use all means necessary to fully coordinate all material, including the following procedures:
1. Determine and verify all field dimensions and conditions, catalog numbers and similar data.
 2. Coordinate as required with all trades and all public agencies involved.
 3. Submit a written statement of review and compliance with the requirements of all applicable Technical Specifications as well as the requirements of this Section.
 4. Clearly indicate in a letter or memorandum on the manufacturer's or fabricator's letterhead, all deviations from the Contract Documents.
 5. Have a qualified design professional registered in the State of Georgia to design, review and approve the elements being designed in the Shop Drawings.
- B. Each copy of the shop drawings and data shall bear the Contractor's professional stamp showing that they have been so checked by a Georgia Certified design professional. Shop drawings submitted to the Owner's Representative without the Contractor's stamp will be returned to the Contractor for conformance with this requirement.
- C. The Owner may back charge the Contractor for costs associated with having to

review a particular shop drawing, product data or sample more than two (2) times to receive a “*No Exceptions Taken*” mark.

D. Grouping of Submittals

1. Unless otherwise specifically permitted by the Owner’s Representative, make all submittals in groups containing all associated items.
2. No review will be given to partial submittals of shop drawings for items which interconnect and/or are interdependent. It is the Contractor's responsibility to assemble the shop drawings for all such interconnecting and/or interdependent items, check them and then make one submittal to the Owner’s Representative along with Contractor's comments as to compliance, non-compliance or features requiring special attention.

E. Schedule of Submittals

1. Within 30 days of Contract award and prior to any shop drawing submittal, the Contractor shall submit a schedule showing the estimated date of submittal and the desired approval date for each shop drawing anticipated. A reasonable period shall be scheduled for review and comments. Time lost due to unacceptable submittals shall be the Contractor's responsibility and a measure of time allowance for resubmittal shall be provided. The schedule shall provide for submittal of items which relate to one another to be submitted concurrently.

3.02 Timing of Submittals

- A. Make all submittals far enough in advance of scheduled dates for delivery and installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, for placing orders and securing timely delivery.
- B. In scheduling, allow sufficient time for the Owner’s Representative and Project Landscape Architect's plans review following the receipt of the submittal.

3.03 Reviewed Shop Drawings

A. Owner’s Representative Review

1. Allow a minimum of 30 days for the Owner’s Representative initial processing of each submittal requiring review and response, except allow longer periods where processing must be delayed for coordination with subsequent submittals. The Owner’s Representative will advise the Contractor promptly when it is determined that a submittal being processed must be delayed for coordination. Allow a minimum of two (2) weeks for reprocessing each submittal. Advise the Owner’s Representative on each submittal as to whether processing time is

critical to progress of the Work, and therefore the Work would be expedited if processing time could be foreshortened.

2. Acceptable submittals will be marked “No Exceptions Taken”. A minimum of three copies will be retained by the Owner’s Representative for Project Landscape Architect's and the Owner's use and the remaining copies will be returned to the Contractor.
 3. Submittals requiring minor corrections before the product is acceptable will be marked “*Make Corrections Noted*”. The Contractor may order, fabricate and ship the items included in the submittals, provided the indicated corrections are made. Drawings must be resubmitted for review and marked “No Exceptions Taken” prior to installation or use of products.
 4. Submittals marked “*Amend and Resubmit*” must be revised to reflect required changes and the initial review procedure repeated.
 5. The “*Rejected - See Remarks*” notation is used to indicate products which are not acceptable. Upon return of a submittal so marked, the Contractor shall repeat the initial review procedure utilizing acceptable products.
 6. Only two (2) copies of items marked “*Amend and Resubmit*” and “*Rejected - See Remarks*” will be reviewed and marked. One copy will be retained by the Project Landscape Architect and the other copy with all remaining unmarked copies will be returned to the Contractor for resubmittal.
- B. No work or products shall be installed without a drawing or submittal bearing the “*No Exceptions Taken*” notation. The Contractor shall maintain at the job site a complete set of shop drawings bearing the Project Landscape Architect's stamp and approved by the Owner.
- C. Substitutions: In the event the Contractor obtains the Owner’s Representative approval for the use of products other than those which are listed first and bid into the Contract Documents, the Contractor shall, at the Contractor's own expense and using methods approved by the Project Landscape Architect, make any changes to structure and design work that may be necessary to accommodate these products.
- D. Use of the “*No Exceptions Taken*” notation on drawings or other submittals is general and shall not relieve the Contractor of the responsibility of furnishing products of the proper dimension, size, quality, quantity, materials and all performance characteristics, to efficiently perform the requirements and intent of the Contract Documents. The Owner’s Representative and or Project Landscape Architect's review shall not relieve the Contractor of responsibility for errors of any kind on the shop drawings. Review is intended only to assure conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and

correlated at the job site. The Contractor is also responsible for information that pertains solely to the fabrication processes or to the technique of construction and for the coordination of the work of all trades.

3.04 Resubmission Requirements

A. Shop Drawings

1. Revise initial drawings as required and resubmit as specified for initial submittal, with the resubmittal number shown.
2. Indicate on drawings all changes which have been made other than those requested by the Owner's Representative.

- B. Project Data and Samples: Resubmit new data and samples as specified for initial submittal, with the resubmittal number shown.

END OF SECTION 01340

SECTION 01400

QUALITY CONTROL

1.1 GENERAL

- A. Quality control services include inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by the Landscape Architect.
- B. Contractor Responsibilities: Unless they are the responsibility of another entity, Contractor shall provide inspections and tests specified elsewhere and required by authorities having jurisdiction. Costs for these services shall be included in the Contract Sum.
 - 1. Where inspections and tests are the Contractor's responsibility, the Contractor shall employ and pay a qualified independent testing agency to perform these services. Costs for these services are included in the Contract Sum.
 - 2. Where inspections and tests are the Owner's responsibility, the Owner will employ and pay a qualified independent testing agency to perform those services.
 - 3. Where inspections and tests are the Owner's responsibility, the Owner will engage the services of a qualified independent testing agency to perform those services. Payment will be made from the Inspection and Testing Allowance, as authorized by Change Orders.
 - a. Where the Owner engages an agency to test or inspect part of the Work and the Contractor is required to engage an entity to test or inspect the same or related element, the Contractor shall not employ the entity engaged by the Owner, unless the Owner agrees in writing.
- C. Retesting: The Contractor is responsible for retesting where results of inspections and tests prove unsatisfactory and indicate noncompliance with requirements.
 - 1. The cost of retesting is the Contractor's responsibility where tests performed indicated noncompliance with requirements.
- D. Auxiliary Services: Cooperate with agencies performing inspections and tests. Provide auxiliary services as requested. Notify the agency in advance of operations to permit assignment of personnel. Auxiliary services include the following:
 - 1. Providing access to the Work.
 - 2. Furnishing incidental labor and facilities to assist inspections and tests.
 - 3. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
 - 4. Providing facilities for storage and curing of test samples.
 - 5. Delivering samples to testing laboratories.

6. Providing preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 7. Providing security and protection of samples and test equipment.
- E. Duties of the Testing Agency: The testing agency shall cooperate with the Landscape Architect and the Contractor in performing its duties. The agency shall provide qualified personnel to perform inspections and tests.
1. The agency shall notify the Landscape Architect and the Contractor of irregularities or deficiencies observed in the Work during performance of its services.
 2. The agency shall not release, revoke, alter, or enlarge requirements or approve or accept any portion of the Work.
 3. The agency shall not perform duties of the Contractor.
- F. Coordination: Coordinate activities to accommodate services with a minimum of delay. Avoid removing and replacing construction to accommodate inspections and tests.
1. The Contractor is responsible for scheduling inspections, tests, taking samples, and similar activities.
- G. Submittals: The testing agency shall submit a certified written report, in duplicate, of each inspection and test to the Landscape Architect. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection or test through the Contractor.
1. Submit additional copies of each report to the governing authority, when the authority so directs.
 2. Report Data: Reports of each inspection, test, or similar service include, but are not limited to, the following:
 - a. Date of issue.
 - b. Project title and number.
 - c. Name, address, and telephone number of testing agency.
 - d. Dates and locations of samples and tests or inspections.
 - e. Names of individuals making the inspection or test.
 - f. Designation of the Work and test method.
 - g. Identification of product and Specification Section.
 - h. Complete inspection or test data.
 - i. Test results and an interpretation of test results.
 - j. Ambient conditions at the time of sample taking and testing.
 - k. Comments or professional opinion on whether inspected or tested Work complies with requirements.
 - l. Name and signature of laboratory inspector.
 - m. Recommendations on retesting.

- H. Qualifications for Service Agencies: Engage inspection and testing service agencies that are prequalified as complying with the American Council of Independent Laboratories' "Recommended Requirements for Independent Laboratory Qualification" and that specialize in the types of inspections and tests to be performed.
 - 1. Each agency shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION

- A. Repair and Protection: Upon completion of inspection, testing, and sample taking, repair damaged construction. Restore substrates and finishes. Comply with Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities and protect repaired construction.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for inspection and testing.

END OF SECTION 01400

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1.1 GENERAL

- A. Summary: This Section specifies construction facilities and temporary controls including temporary utilities, support facilities, and security and protection facilities.

Reference the Construction Access sheet for information on where and how to access the Boardwalk site.

Reference Section 02100 Site Preparation for instructions on the access requirements

- B. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
1. Building code requirements.
 2. Health and safety regulations.
 3. Utility company regulations.
 4. Local Police, fire department, and rescue squad rules.
 5. Environmental protection regulations.
 6. City Parks Department for park access.
 7. Brookhaven City DOT for use of the local roads.
- C. Standards: Comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."
1. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 "National Electric Code."
- D. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.
- E. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. Submit reports of tests, inspections, meter readings, and procedures performed on temporary utilities. At the earliest time, change over from use of temporary service to use of permanent service.
- F. Site Access along the trail system to reach the boardwalk location. Use of the trail for access by construction vehicles and delivery shall be accompanied by a safety flagman to protect users along the trail. The trails shall not be used for parking or storage of materials or equipment.
- G. Materials storage security is at the contractor's discretion. Contractor must submit their plans for materials security to the city representative for approval.

1.2 PRODUCTS

- A. Materials: Provide new materials. If acceptable to the Landscape Architect, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.
1. Lumber and Plywood: All lumber Provide UL-labeled, fire-treated lumber and plywood for temporary offices and sheds. Provide exterior, Grade B-B high-density concrete form overlay plywood for signs. Provide 5/8-inch- (16-mm-) thick exterior plywood for other uses.
 2. Roofing Materials: UL Class A standard-weight asphalt shingles or UL Class C mineral-surfaced roll roofing on roofs of temporary offices, shops, and sheds.
 3. Paint: Comply with Division 9 Section "Painting."
 - a. For exposed lumber and plywood, provide exterior-grade acrylic-latex emulsion over exterior primer.
 - b. For sign panels and applying graphics, provide exterior-grade alkyd gloss enamel over exterior primer.
 - c. For interior walls of temporary offices, provide 2 coats interior latex-flat wall paint.
 4. Tarpaulins: Waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.
 5. Water: Potable water approved by local health authorities.
 6. Open-Mesh Fencing: 0.120-inch- (3-mm-) thick, galvanized 2-inch (50-mm)chain link fabric fencing 6 feet (2 m) high with galvanized barbed-wire top strand and galvanized steel pipe posts, 1-1/2 inches (38 mm) I.D. for line posts and 2-1/2inches (64 mm) I.D. for corner posts.
- B. Equipment: Provide new equipment. If acceptable to the Landscape Architect, the Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.
1. Water Hoses: 3/4-inch (19-mm), heavy-duty, abrasion-resistant, flexible rubber hoses 100 feet (30 m) long. Provide adjustable shutoff nozzles at hose discharge.
 2. Electrical Outlets: Properly configured, NEMA-polarized outlets. Provide outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for connection of power tools and equipment.
 3. Electrical Power Cords: Grounded extension cords. Use hard-service cordswhere exposed to abrasion and traffic.
 4. Lamps and Light Fixtures: General service incandescent lamps. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.
 5. Heating Units: Temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.
 6. Fire Extinguishers: Hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried,

portable, UL-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.

- a. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

1.3 EXECUTION

- A. Installation, General: Use qualified personnel to install temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
 1. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
 2. Conditions of Use: Keep temporary facilities clean and neat in appearance. Operate safely and efficiently. Relocate as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire- prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.
- B. Temporary Utility Installation: Engage the local utility company to install temporary service or connect to existing service. Where company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with company recommendations.
 1. Arrange with company and existing users for a time when service can be interrupted to make connections for temporary services.
 2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
 3. Obtain easements to bring temporary utilities to the site where the Owner's easements cannot be used for that purpose.
 4. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner or Architect. Neither the Owner nor Architect will accept cost or use charges as a basis of claims for Change Orders.
 5. Temporary Water Service: Install temporary water service and distribution piping of sizes and pressures adequate for construction. Maintain service until permanent water service is in use. Sterilize piping prior to use.
 6. Temporary Electric Power: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics. Include meters, transformers, overload-protected disconnects, automatic ground-fault interrupters, and main distribution switch gear. Install service underground.
 - a. Power Distribution: Install wiring overhead and rise vertically where least exposed to damage.

- b. Temporary Lighting: Provide temporary lighting with local switching to fulfill security requirements and illumination for construction operations and traffic conditions.
8. Project Telephones: Provide telephone access for each personnel engaged in construction. Provide a permanent line for each temporary office and first aid station on site. Provide a dedicated telephone line for a fax machine or computer in the field office.
9. Sanitary Facilities: Comply with regulations and health codes for the type, number, location, operation, and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs. Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Provide covered waste containers.
- a. Toilets: Install self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.
 - 1) Provide separate facilities for male and female personnel.
 - b. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up. Dispose of drainage properly. Supply cleaning compounds.
 - 1) Provide safety showers, eyewash fountains, and similar facilities for safety, and sanitation of personnel.
 - c. Drinking-Water Facilities: Provide containerized, tap-dispenser, bottled drinking-water units.
10. Sewers and Drainage: If sewers are available, provide temporary connections to remove effluent. If sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds, and similar facilities. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off-site in a lawful manner.
- a. Filter out soil, construction debris, chemicals, and similar contaminants that might clog sewers or pollute waterways.
 - b. Provide earthen embankments and similar barriers in and around excavations and subgrade construction to prevent flooding by runoff of storm water from heavy rains.

- C. Support Facilities Installation: If reasonable and desired by the contractor. The contractors may locate field offices, storage sheds, and other construction and support facilities for easy access in coordination with the Owner. Maintain facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
1. Provide incombustible construction for offices, shops, and sheds located within the construction area or within 30 feet (9 m) of building lines. Comply with requirements of NFPA 241.
 2. Field Offices: Provide heated and air-conditioned, insulated, weather tight temporary offices of size to accommodate personnel at the Project Site. Provide offices on foundations adequate for normal loading. Provide units with lockable entrances, operable windows, and serviceable finishes. Keep the office clean and orderly for use for small progress meetings. Furnish and equip offices as follows:
 - a. Furnish field offices with a desk and chairs, a 4-drawer file cabinet, plan table, plan rack, and a 6-shelf bookcase. Equip with a water cooler and toilet complete with water closet, lavatory, and medicine cabinet unit with a mirror.
 3. Storage: Submit plans for storage areas and security to the city for approval.
 4. Temporary Paving: There are no needs for temporary paving on the project.
 5. Dewatering Facilities and Drains: For temporary drainage and dewatering operations not directly associated with construction, comply with dewatering requirements of applicable Division 2 Sections. Where feasible, utilize the same facilities. Maintain excavations and construction free of water.
 6. Temporary Protection: Provide temporary protection of construction materials from exposure, foul weather, other construction operations, and similar activities.
 - a. Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 sq. ft. (2.3 sq. m) or less with plywood or similar materials.
 7. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees.
 8. Project Signs: Install project identification and other signs where indicated to inform the public and persons seeking entrance to the Project. Support on framing of preservative-treated wood or steel. Do not permit installation of unauthorized signs. Engage an experienced sign painter to apply graphics. Comply with details indicated.
 9. Temporary Exterior Lighting: Install exterior yard and sign lights so signs are visible when Work is being performed.
 10. Waste Collection and Disposal: Collect waste daily. Comply with requirements of NFPA 241. Enforce requirements strictly. Handle hazardous, dangerous, or

unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.

- a. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80° F (27° C).
11. Pest Control: Retain an exterminator or pest control company to perform extermination and control procedures at regular intervals so the Project will be free of pests at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.
- D. Security and Protection of Facilities Installation: Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion.
1. Temporary Fire Protection: Until permanent facilities supply fire-protection needs, install and maintain temporary fire-protection facilities of types needed to protect against controllable fire losses. Comply with NFPA 10 and NFPA 241.
 - a. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell. Maintain unobstructed access to fire extinguishers.
 - b. Store combustible materials in containers in fire-safe locations.
 - c. Prohibit smoking in hazardous fire-exposure areas.
 - d. Provide supervision of welding operations, combustion-type temporary heating units, and similar sources of fire ignition.
 2. Permanent Fire Protection: At the earliest date, complete installation of the permanent fire-protection facility and place into operation and use. Instruct key personnel on use of facilities.
 3. Barricades, Warning Signs, and Lights: Comply with code requirements for erection of barricades. Paint with appropriate colors, graphics, and warning signs. Where appropriate and needed, provide lighting, including flashing red or amber lights.
 4. Enclosure Fence: Before construction begins, install an enclosure fence with lockable entrance gates to enclose the entire site or the portion sufficient to accommodate construction.
 - a. Provide open-mesh, chain link fencing with posts set in a compacted mixture of gravel and earth.
 - b. Provide plywood fence, 8 feet (2.5 m) high, framed with four 2-by-4-inch (50-by-100-mm) rails, and preservative-treated wood posts spaced not more than 8 feet (2.5 m) apart.

7. Environmental Protection: Operate temporary facilities and conduct construction in ways that comply with environmental regulations and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise-making equipment to hours that will minimize complaints.
- E. Operation: Enforce discipline in use of temporary facilities. Limit availability to intended uses to minimize waste and abuse.
- F. Maintenance: Maintain facilities in operating condition until removal. Protect from damage by freezing temperatures and similar elements. Maintain temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid damage.
- H. Termination and Removal: Remove each temporary facility when the need has ended, when replaced by a permanent facility, or no later than Substantial Completion. Complete or restore permanent construction delayed because of interference with the temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 1. Materials and temporary facilities are the Contractor's property. The Owner reserves the right to take possession of project identification signs.
 2. Remove temporary gravel. Where the area is intended to return to natural conditions, remove soil and aggregate fill that do not comply with requirements for fill or subsoil in the area. Remove materials contaminated with oil, asphalt and other petrochemical compounds, and substances that might impair growth of natural plant materials.
 3. Repair or replace paving, curbs, and sidewalks at the temporary entrances, as required by the governing authority.
 3. At Substantial Completion, clean permanent boardwalk decks used during the construction period.

END OF SECTION 01500

SECTION 015639

TREE CARE AND PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Top Down Construction will protect the adjacent vegetation in that there is no reason for workmen or equipment to be on the ground in the tree save areas.
- B. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.
- C. Related Sections.
 - 1. Section 02100 "Site Preparation" Clearing" for removing existing trees and shrubs.
- D. Caliper: Diameter of a trunk measured by a diameter tape at 48 inches above the ground for trees larger than 4-inch size.
- E. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.
- F. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, defined by a circle concentric with each tree with a radius 1.5 times the diameter of the drip line, unless otherwise indicated.
- G. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.
- H. Root Zone: That area designated by the City as the critical root zone (CRZ) of the tree.
- I. Root Plat: That area designated by the City as the critical root plate (CRP) near the trunk.
- J. Shredded Vegetation: The vegetation in the location of the boardwalk will be hand removed leaving the stumps in place under the decks. The refuse may be shredded and broadcast over the cleared area and out under the adjacent vegetation. Mulch is to be blown out in the tree save areas without ground personnel going into these areas.
- K. Planting Plan: There are not trees or shrubs to be planted on this project so new tree care and protection is not necessary and may be deleted from the tree protection requirements.
- L. Pruning: Removal of tree limbs along the access routes or boardwalk shall be performed in accordance with good horticultural practices by a qualified individual.
- M. Arborist: Contractor shall retain the services of a qualified arborist to advise and direct the efforts of pruning and saving the existing trees.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For each type of the following:
 - 1. Protection-Zone Fencing: Assembled Samples of manufacturer's standard size made from full-size components.
 - 2. Protection-Zone Signage: Full-size Samples of each size and text, ready for installation.
- C. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.

1. Species and size of tree. Specimen trees
2. Location on site plan. Along edge of boardwalk as staked on the ground.
3. Reason for pruning. Preserve the life of the trees
4. Description of pruning to be performed. In accordance with good horticulture practices.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified arborist and tree service firm.
- B. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- C. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.
- D. Existing Conditions: Any tree currently in the edge of an access trail or the boardwalk route and its roots spread out under the trail or boardwalk, the trail shall be lifted by adding soil and shredded mulch. Branches and limbs hanging into the trails route or boardwalk that inhibit use of the trail or boardwalks shall be pruned in accordance with good horticultural practices.
 1. Contractor shall carefully document the existing conditions in advance by photo or video.
 2. Contractor must identify any existing wounds or damage to the tree or root system that is visible or discovered during the documentation process.
 3. Identify any trees that represent a hazard of danger to patrons using the trail or boardwalk.

1.4 QUALITY ASSURANCE

- A. Arborist Qualifications. Licensed arborist in jurisdiction where Project is located.
- B. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed prescriptive tree care and protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work.
- C. Pre-prescription Care Conference: Conduct conference at Project site with arborist and landscape architect prior to any clearing to discuss the process and requirements.
 1. Review methods and procedures related to prescriptive tree care and protection including, but not limited to, the following:
 - a. Construction schedule. Verify availability of materials, personnel, and equipment needed to make progress and avoid delays.
 - b. Enforcing requirements for protection zones.
 - c. Arborist's responsibilities.
 - d. Field quality control.

1.5 PROJECT CONDITIONS

- A. The following practices are prohibited within protection zones:
 1. Storage of construction materials, debris, or excavated material.
 2. Parking vehicles or equipment.
 3. Foot traffic.
 4. Erection of sheds or structures.
 5. Impoundment of water.

6. Pile driving or other ground disturbance unless otherwise indicated.
 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- B. Do not direct vehicle or equipment exhaust toward protection zones.
- C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Topsoil: Need for topsoil is not anticipated on this project.
- B. Mulch: Shredded mulch created from vegetation hand removed under the boardwalk route.
- C. Protection-Zone Fencing: Fencing fixed in position and meeting the following requirements. Previously used materials may be used when approved by Architect.
1. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch maximum opening in pattern and weighing a minimum of 0.4 lb./ft.; remaining flexible from minus 60 to plus 200 deg F; inert to most chemicals and acids; minimum tensile yield strength of 2000 psi and ultimate tensile strength of 2680 psi; secured with plastic bands or galvanized-steel or stainless-steel wire ties; and supported by tubular or T-shape galvanized-steel postspaced not more than 8 feet apart.
 - a. Height: 4 feet.
 - b. Color: High-visibility orange, nonfading.
- D. Protection-Zone Signage: Shop-fabricated, rigid plastic with attachment holes pre-punched and reinforced; legibly printed with nonfading lettering and as follows:
1. Lettering: 3-inch-high minimum, black characters on white background.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are needed. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- B. It is not anticipated that tree protection will be needed in the wetland areas.
- C. For the record, prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.

3.2 PREPARATION.

- A. Locate and clearly identify trees, shrubs, and other vegetation to remain or removed. Flag each tree trunk at 27 inches above the ground that is to be removed.

- B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
- C. Tree-Protection Zones: Mulch areas inside dry land tree-protection zones and other areas indicated.
 - 1. Apply 3-inch average thickness of mulch. Do not place mulch within 6 inches of tree trunks.

3.3 TREE- AND PLANT-PROTECTION ZONES

- A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people from easily entering protected area except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.
- B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Architect. Install one sign spaced approximately every 50 feet on protection-zone fencing, but no fewer than four signs with each facing a different direction.
- C. Maintain protection zones free of weeds and trash.
- D. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Landscape Architect.
- E. Maintain protection-zone fencing and signage in good condition as acceptable to Landscape Architect and remove when construction operations are complete, and equipment has been removed from the site.
 - 1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
 - 2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3.4 EXCAVATION

- A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 02200 "Earthwork."
- B. Trenching near Trees: Where utility trenches or silt fences are required within protection zones, hand excavate under or around tree roots or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.
- C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches back from new construction and as required for root pruning.
- D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist

condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

3.5 CROWN PRUNING

- A. Prune branches that are affected by temporary and permanent construction. Prune branches as follows:
 - 1. Prune trees to remain to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by arborist.
 - 2. Remove limbs that hang over or into the boardwalk zone less than 8' above the deck.
 - 3. Pruning Standards: Prune trees according to ANSI A300 (Part 1).
 - 4. Cut branches with sharp pruning instruments; do not break or chop.
 - 5. Do not apply pruning paint to wounds.
- B. Chip or shred removed branches and spread over areas identified by Landscape Architect. Broadcast nitrogen 33-0-0 over all fresh shredded mulch to accelerate decomposition. Submit nitrogen data for approval.

3.6 REGRADING

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.
- C. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- D. Minor Fill within Protection Zone: Where existing grade is 2 inches or less below elevation of finish grade, fill with topsoil. Place topsoil in a single uncompacted layer and hand grade to required finish elevations.
- E. No fill or excavation shall take place in the wetlands.

3.7 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, understory, and other vegetation indicated to remain and to prepare inspection reports.

3.8 REPAIR AND REPLACEMENT

- A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Architect.
 - 1. Submit details of proposed tree and shrub repairs.
 - 2. Have arborist perform the branch pruning, and damage repair of trees and understory.
 - 3. Treat damaged trunks, limbs, and roots according to arborist's written instructions.
 - 4. Perform repairs within 24 hours of damage.
 - 5. Replace damaged vegetation that cannot be repaired and restored as determined by Landscape Architect.

3.9 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove excess building materials, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION 015639

SECTION 01600

MATERIALS AND EQUIPMENT

1.1 GENERAL

- A. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock.
 - 1. "Named Products" are items identified by the manufacturer's product name, including make or model number or designation, shown or listed in the manufacturer's published product literature.
- B. "Materials" are products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
- C. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.
- D. Product List: A list of products required is included at the end of this Section. Prepare a schedule in tabular form showing each material listed. Include the manufacturer's name and proprietary product names for each item listed.
 - 1. Form: Prepare product list with information on each item tabulated under the following column headings:
 - a. Related Specification Section number.
 - b. Generic name used in final Contract Documents.
 - c. Proprietary name, model number, and similar designations.
 - d. Manufacturer's name and address.
 - e. Supplier's name and address.
 - f. Installer's name and address.
 - g. Projected delivery date or time span of delivery period.
 - 2. Within 60 days after date of commencement of the Work, submit 3 copies of the product list. Provide a written explanation for omissions of data and variations from Contract requirements.
 - 3. The Landscape Architect will respond within 2 weeks of receipt of the list. No response within this period constitutes no objection to listed manufacturers or products but does not waive the requirement that products comply with Contract Documents. The Landscape Architect's response will include a list of unacceptable products.
- E. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source.

1. When the Contractor is given the option of selecting between 2 or more products for use on the Project, the product selected shall be compatible with products previously selected.
- G. Deliver, store, and handle products according to the suppliers' recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
1. Schedule delivery to minimize long-term storage and to prevent overcrowding construction spaces. Coordinate with installation to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, weather and other losses.
 2. Deliver products in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 3. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that materials are undamaged and properly protected.
 4. Store materials to facilitate inspection and measurement of quantity or counting of units. Store heavy materials away from the structure in a manner that will not endanger the supporting construction.
 5. Store materials subject to damage by the elements aboveground, under cover in a weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

1.2 PRODUCTS

- A. Product Selection Procedures: Procedures governing product selection include the following:
1. Proprietary Specification Requirements: Where Specifications name only a single product or manufacturer, provide the product indicated. No substitutions will be permitted.
 2. Semiproprietary Specification Requirements: Where Specifications name 2 or more products or manufacturers, provide 1 of the products indicated. No substitutions will be permitted.
 - a. Where products are specified by name, accompanied by the term "or equal," comply with provisions concerning "substitutions" to obtain approval for use of an unnamed product.
 3. Nonproprietary Specifications: When Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

4. Descriptive Specification Requirements: Where Specifications describe a product, listing characteristics required, with or without use of a brand name, provide a product that provides the characteristics and otherwise complies with requirements.
5. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply and are recommended for the application. Manufacturer's recommendations may be contained in product literature or by the manufacturer's certification of performance.
6. Compliance with Standards, Codes, and Regulations: Where Specifications only require compliance with an imposed code, standard, or regulation, select a product that complies with the standards, codes, or regulations specified.
7. Visual Matching: Where Specifications require matching a Sample, the Architect's decision on whether a product matches will be final. Where no product in the specified category matches and complies with other requirements, comply with provisions concerning "substitutions" for selection of a matching product in another category.
8. Visual Selection: Where requirements include the phrase "... as selected from manufacturer's standard colors, patterns, textures ..." or a similar phrase, select a product that complies with other requirements. The Architect will select the color, pattern, and texture from the product line selected.

1.3 EXECUTION

- A. Comply with manufacturer's instructions for installation of products. Anchor each product securely in place, accurately located and aligned with other Work. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 01600

SECTION 01631

SUBSTITUTIONS

1.1 GENERAL

- A. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed after award of the Contract are considered requests for substitutions. The following are not a request for substitutions:
1. Substitutions requested during the bidding period and accepted by Addendum prior to award of the Contract.
 2. Revisions to the Contract Documents requested by the Owner due to design error.
 3. Specified options included in the Contract Documents.
 4. Contractor's compliance with regulations issued by governing authorities.
 5. Changes made by the Design Build Contractor because of an error in his plans.
- B. Substitution Request Submittal: The Landscape Architect/Engineer or Owner's Representative will consider requests for substitution received within 60 days after commencement of the Work.
1. Submit three (3) copies of each request for substitution. Submit requests according to procedures required for change-order proposals.
 2. Identify the product or method to be replaced in each request. Include related Specification Section and approved Drawings numbers.
 3. Provide documentation showing compliance with the requirements for substitutions and the following information:
 - a. Coordination information, including a list of changes needed to other Work that will be necessary to accommodate the substitution.
 - b. A comparison of the substitution with the Work specified, including performance, weight, size, durability, and visual effect.
 - c. Product Data, including Drawings and descriptions of products and installation procedures.
 - d. Samples, where applicable or requested.
 - e. A statement indicating the effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the substitution on Contract Time.
 - f. Cost information, including a proposal of the net change, if any in the Contract Sum.
 - g. Certification that the substitution conforms to the Contract Documents and is appropriate for the applications indicated.
 - h. The Contractor's waiver of rights to additional payment or time that may become necessary because of the failure of the substitution to perform adequately.
 4. Architect's Action: If necessary, the Landscape Architect will request additional information within one week of receipt of a request for substitution. The

Architect will notify the Contractor of acceptance or rejection within 2 weeks of receipt of the request. Acceptance will be in the form of a change order.

- a. Use the product specified if the Architect cannot make a decision within the time allocated.

1.2 PRODUCTS

- A. Conditions: The Architect will receive and consider a request for substitution when one or more of the following conditions are satisfied. Otherwise, the Architect will return the requests without action except to record noncompliance with these requirements.
 1. Extensive revisions to the Contract Documents are not required.
 2. Changes are in keeping with the intent of the Contract Documents.
 3. The specified product cannot be provided within the Contract Time. The Architect will not consider the request if the specified product cannot be provided as a result of failure to pursue the Work promptly.
 4. The request is related to an "or-equal" clause.
 5. The substitution offers the Owner a substantial advantage, in cost, time, or other considerations, after deducting compensation to the Architect for redesign and increased cost of other construction.
 6. The specified product cannot receive approval by a governing authority, and the substitution can be approved.
- B. The Contractor's submittal and the Landscape Architect's acceptance of Shop Drawings, Product Data, or Samples for construction not complying with the Contract Documents do not constitute an acceptable request for substitution, nor do they constitute approval.
- C. Design Build Contractor cannot arbitrarily substitute a material or product shown on his drawings without getting approval from the Owner.

1.3 EXECUTION (Not Applicable)

END OF SECTION 01631

SECTION 01700

CONTRACT CLOSEOUT

1.1 GENERAL

- A. Closeout requirements for specific construction activities are included in the appropriate Technical Sections in Divisions 2 through 16.
- B. Substantial Completion: Before requesting inspection for certification of Substantial Completion, complete the following:
 - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the Work claimed as substantially complete.
 - a. Include supporting documentation for completion and an accounting of changes to the Contract Sum.
 - 2. Advise the Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
 - 4. Submit record drawings, maintenance manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information.
 - 5. Deliver client owned tools, spare parts, extra stock, and similar items.
 - 6. Complete cleanup and restoration of access path routes and entrances
 - 7. Complete final cleanup requirements, including decking water seal.
 - 8. Touch up, repair and restore marred, exposed finishes.
- C. Inspection Procedures: On receipt of a Request for Inspection, the Landscape Architect will proceed or advise the Contractor of unfilled requirements. The Landscape Architect will prepare the Certificate of Substantial Completion following inspection or prepare a Punch List to advise the Contractor of construction items that must be completed or corrected before the certificate will be issued.
 - 1. The Landscape Architect will repeat inspection when requested and assured that the Work is substantially complete.
 - 2. Results of the completed inspection will form the basis of requirements for final acceptance.
- D. Final Acceptance: Before requesting inspection for certification of final acceptance and final payment, complete the following:
 - 1. Final payment request with releases and supporting documentation. Include insurance certificates where required.
 - 2. Submit a statement, accounting for changes to the Contract Sum.
 - 3. Submit a copy of the final inspection list stating that each item has been completed or otherwise resolved for acceptance.
 - 4. Submit final meter readings for utilities, a record of stored fuel, and similar data as of the date of Substantial Completion.

5. Submit consent of surety to final payment.
 6. Submit a final settlement statement.
 7. Submit evidence of continuing insurance coverage complying with insurance requirements.
- E. Re-inspection Procedure: The Landscape Architect will re-inspect the Work upon receipt of notice that the Work has been completed, except for items whose completion is delayed under circumstances acceptable to the Architect.
1. Upon completion of re-inspection, the Landscape Architect will prepare a certificate of final acceptance. If the Work is incomplete, the Landscape Architect will advise the Contractor of Work that is incomplete or obligations that have not been fulfilled but are required in the form of a Punch List.
 2. If necessary, re-inspection will be repeated.
- F. Record Document Submittals: Do not use record documents for construction. Protect from loss in a secure location. Provide access to record documents for the Landscape Architect's reference.
- G. Record Drawings: Maintain a set of prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark the drawing most capable of showing conditions fully and accurately. Give attention to concealed elements.
1. Mark sets with red pencil. Use other colors to distinguish between variations in separate categories of the Work.
 2. Organize record drawing sheets into manageable sets. Bind with durable-paper cover sheets, print titles, dates, and other identification on the cover of each set.
 3. Upon completion of the work, submit one reproducible copy of the Record Drawings to the Owner.
- H. Record Specifications: Maintain one copy of the Project Manual, including addenda. Mark to show variations in Work performed in comparison with the text of the Specifications and modifications. Give attention to substitutions and selection of options and information on concealed construction. Note related record drawing information and Product Data.
1. Upon completion of the Work, submit record Specifications to the Landscape Architect for the Owner's records.
 2. Submit complete copies of all testing data and shop drawings to the Owner.
- I. Maintenance Manuals: Organize maintenance data into a manageable manual. Bind into an individual, heavy-duty, 2-inch (51-mm), 3-ring, binders, with pocket folders for folded sheet information. Mark identification on front and spine of the binder. Include the following information:
1. Emergency access instructions.
 2. Water sealant products list and schedule.
 3. Copies of warranties.

4. Shop Drawings and hardware Product Data.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION

- A. Operation and Maintenance Instructions: Arrange for each Installer of products that require maintenance to provide instruction in proper maintenance. Include a detailed review of the following items:
 1. Maintenance manuals.
 2. Spare parts, tools, and materials.
 3. Surface sealant materials and schedule.
 5. Periodic structural inspections
 6. Warranties and bonds.
- B. Final Cleaning: Engage experienced cleaning team for final clean up. Clean each surface to the condition expected in an outdoor park and maintenance program. Complete the following operations before requesting inspection for certification of Substantial Completion.
 1. Remove labels that are not permanent labels from lumber and plant materials.
 2. Clean exposed finishes to free of stains, films, and foreign substances. Leave wooden decks broom clean.
 3. Remove gravel, stone or other aggregate at the entrances and along the access trails and replace with natural topsoil compatible with existing topsoil.
 4. Spread natural leaf and straw mulch over the cleaned temporary access trails routes to return the area to the original appearance of the undisturbed surfaces.
 3. Clean the site of rubbish, litter, debris and foreign substances. Sweep deck areas; remove stains, spills, and foreign deposits. Rake adjacent grounds to a smooth, even-textured surface.
- C. Removal of Protection: Remove temporary protection and facilities.
- D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Remove waste materials and dispose of lawfully.

END OF SECTION 01700

SECTION 01740

WARRANTIES

1.1 GENERAL

- A. Standard product warranties are preprinted written warranties published by individual manufacturers or suppliers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.
 - 1. Refer to the General Conditions for terms of the Contractor's period for correction of the Work.
 - 2. All conditions of this Section shall also apply to warranties stated in other section
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.
- D. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
- E. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- F. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- G. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.

1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 2. Where the Contract Documents require a special warranty, or similar commitment, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.
- H. Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion, submit written warranties upon request of the Architect.
1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect within 15 days of completion of that designated portion of the Work.
- I. When the Contract Documents require the Contractor, or the Contractor and a subcontractor, supplier or manufacturer to execute a special warranty, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner, through the Architect, for approval prior to final execution.
1. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
- J. Bind warranties and bonds in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (*115-by-280-mm*) paper.
1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the Installer.
 2. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

1.2 PRODUCTS (Not Applicable)

1.3 EXECUTION

- A. List of Warranties: As follows:
Warranty on the treated lumber and pile materials
Warranty on structural construction of the Boardwalk for one year. .

END OF SECTION 01740

CONTRACTOR WARRANTY FORM

PROJECT: CITY OF BROOKHAVEN – MURPHEY CANDLER PARK- NORTH BOARDWALK

LOCATION: BROOKHAVEN, GEORGIA

OWNER: CITY OF BROOKHAVEN

GENERAL CONTRACTOR:

We _____, contractor

(Company Name)

for _____, as described in Specification Section (s)

(list trade)

_____ do hereby warrant

(list appropriate sections of specifications)

that all labor and materials furnished and work performed in conjunction with the above referenced project are in accordance with the Contract Documents and authorized modifications thereto, and will be free from defects due to defective materials or workmanship for a period of one year from Date of Substantial Completion and that all street signs will be free from defects due to defective materials or workmanship for a period of seven years from Date of Substantial Completion.

This warranty commences at 12:00 noon on _____

and expires at 12:00 noon on _____. Should any defect develop during the warranty period due to improper materials, workmanship or arrangement, the defect shall, upon written notice by the Owner, be repaired or replaced by the undersigned at no expense to the Owner.

Nothing in the above shall be deemed to apply to work which has been abused or neglected by the Owner.

DATE: _____ FOR: _____

(COMPANY NAME)

BY: _____

TITLE: _____

END OF SECTION 01740A

SUB-CONTRACTOR WARRANTY FORM

PROJECT: CITY OF BROOKHAVEN – MURPHEY CANDLER PARK- NORTH BOARDWALK

LOCATION: BROOKHAVEN, GEORGIA

OWNER: CITY OF BROOKHAVEN

SUB-CONTRACTOR:

We _____, subcontractor
(Company Name)

for _____, as described in Specification Section (s)
(list trade)

_____ do hereby warrant
(list appropriate sections of specifications)

that all labor and materials furnished and work performed in conjunction with the above referenced project are in accordance with the Contract Documents and authorized modifications thereto, and will be free from defects due to defective materials or workmanship for a period of one year from Date of Substantial Completion and that all street signs will be free from defects due to defective materials or workmanship for a period of seven years from Date of Substantial Completion.

This warranty commences at 12:00 noon on _____
_____ and expires at 12:00 noon on _____. Should by any defect develop during the warranty period due to improper materials, workmanship or arrangement, the defect shall, upon written notice by the Owner, be repaired or replaced by the undersigned at no expense to the Owner.

Nothing in the above shall be deemed to apply to work which has been abused or neglected by the Owner.

DATE: _____ FOR: _____
(COMPANY NAME)

BY: _____

TITLE: _____

END OF SECTION 01741

SECTION 02100

SITE PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

Conditions of Section 02112 Tree Protection and Clean Up shall apply to this section. Related Section, 02125 Erosion and Sediment Control.

Permitting Process: The Appendix of this project manual includes instructions and directions on the processes for the permits listed below. Refer to the Appendix to help identify the time and plans needed to secure each permit. Contractor should also contact each permitting agency as part of his bid process to clearly understand the requirements and schedules necessary to secure the identified permits.

PERMITS REQUIRED:

LDP; City of Brookhaven has declared that the project does require a Land Disturbance Permit and the contractor has to submit plans to the City to secure the permit. The access plans on each end of the project site will have land disturbance and grading. Such plans have to include erosion control plans approved by the GSWCC.

GSWCC Review: Contractor must send his completed plans through the GSWCC review process as part of securing the LDP. See Appendix for additional information.

City Building Permit: The contractor is responsible for submitting his final project drawings to the City of Brookhaven for a City Building Permit on the North Boardwalk.

Dekalb County Review: The contractor may have to send the plan through Dekalb County for review based on input from the city building department. Contractor shall contact Dekalb and explain the project to determine if they need to include that process.

ACOE: A '*letter of No Permit*' has been issued for the Army Corps of Engineers for the project as long as we are consistent with the Top-down Construction. A copy of the letter is in the Appendix of this Project Manual.

EPD: The EPD does not require a stream buffer variance when crossing a wetland or a stream at 90 degrees. The same is true for the edges of a lake. There will be no need for a stream buffer variance for the boardwalk construction. See '*Letter of No Permit*' in the Appendix of this manual.

No Rise Certification: Once the plans are submitted, a permitting agency may require a certificate of '*No Rise*'. If that occurs, the city has arranged for an engineering firm to prepare the '*No Rise*' study and certificate at no cost to the contractor. The contractor

is only required to notify the city representative and coordinate with identified engineer during the process of obtaining the ‘No Rise’ Certification.

1.2 SCOPE:

- A. This Section describes materials and equipment to be utilized and requirements for their use in preparing the work site for construction. The Contractor shall furnish all materials, equipment and labor necessary to complete the work. Precautionary measures that prevent damage to existing trees and other site features to remain are part of the Work.
- B. The contractor shall use small rubber tire machinery to do top down construction without allowing vehicles to ever be on the surface of the ground in the wetlands. The conditions of ‘No Permit’ from ACOE and EPD are dependent upon this condition.
- C. Comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction. All required permits of a temporary nature shall be obtained for construction operations by the Contractor.
- D. Clearing operations for the boardwalk and construction access must be done by hand and shall be coordinated with temporary and permanent erosion and sedimentation control procedures. Clearing for construction access on the non wetland areas of the forest may be done with small rubber tire equipment.
- E. Construction Access paths to the boardwalk construction sites are shown on the drawings and shall be constructed by the contractor. Paths shall be constructed in accordance with Section 02889 Woodland Trail Construction. Contractor shall use small rubber tire equipment to extend or modify the existing trails for use as equipment and material delivery routes. Construction Access work shall conform to all erosion control protection requirements.
- F. Contractor shall always maintain reasonable access to the park for use by the citizens. The walking trails shall not be obstructed from use by the citizens. Whenever the extended or existing trails are used for construction delivery or access, the machinery shall be accompanied by a flagman to ensure safety in the park
- G. Contractor may close off the extended trails and construction entrances to prevent unwanted vehicles or personnel from trying to access the site during and after working hours.
- H. Contractor shall coordinate with the Owner’s Representative to be aware of any special events taking place in the park and to take reasonable measures to accommodate the events.

- I. Staking and Layout: Contractor shall stake out the horizontal and vertical locations of the boardwalk and access paths on the site to be reviewed by the Owner and Landscape Architect to determine any adjustments needed to determine the final location of the railings and the extent of the access path construction.
- J. Construction Parking and staging areas may be identified on the road shoulder and will be agreed upon with the City of Brookhaven before construction begins. Submit plans to the owner's representative for approval of staging areas before beginning the permit review process.

1.3 CLEARNG:

- A. Within the limits schematically identified on the Drawings, the site will be cleared for construction by hand as the boardwalk progresses across the site.
- B. The Contractor shall verify existing conditions on the site and examine all adjoining pathways on the site. If any conditions will in any way may affect completion of the work, the contractor shall report to the Landscape Architect or Owner's Representative in writing. Any condition which will prevent the proper performance of the proposed site construction work shall be brought to the attention of the owner during the design phase of the design/build project. The site premises shall be accepted as found. The Landscape Architect and Engineer assume no responsibility for existing conditions of the site.
- C. Clearing:
 - 1. All vegetable growth such as trees, shrubs, brush, and other similar debris shall be cut and removed by hand where shown on the Drawings and disposed of by the Contractor as specified below. Vegetative growth and trees felled as necessary within the limits of the boardwalk construction may be cut into pieces and left under the boardwalk space.
 - 2. Trees, shrubs, and undergrowth within the limits of the boardwalk may be cut off at ground level and the stumps/roots left intact without removing the roots.
 - 3. Where the adjacent tree limb structure interferes with the edges of the boardwalk or extended trails, the limbs shall be removed by hand.
 - 4. Vegetative debris and refuse from the clearing and pruning may be shredded and spread in the space under the proposed boardwalk route.
 - 5. Limbs branches an understory that encroach upon the access paths and obstruct the use of the extended and improved paths may be removed upon approval of the owners representative.

6. All limbs and branches removed from existing vegetation on site shall be performed by a qualified arborist in accordance with good horticulture and pruning practices.
 7. All manmade debris, trash and obstructions, except utility poles, shall be removed as noted on the Drawings and disposed of by the Contractor.
- D. Grubbing:
No grubbing is anticipated nor permitted on the site. Stumps in the wetlands are to be cut off flush and left in place. No trees along the access pathways are anticipated for removal.
- E. Tree Protection fencing may not be necessary adjacent to top-down construction. Decision to be made in the field with the owner's representative.
- F. Tree protection fencing will be necessary along the extended access pathways and entrance routes.

1.4 TESTING AND INSPECTION SERVICES:

- A. Soil borings were taken on site by the Owner at locations along the boardwalk and are available in the Appendix of this Project Manual.
- B. Any additional soil testing will be performed by an independent testing laboratory approved by the Owner. Payment for testing shall be made by Owner
- C. The Contractor's duties relative to additional testing includes:
 1. Notifying the Geotech of conditions requiring testing.
 2. Coordinating with the Geotech for field-testing.
 3. Providing representative foundation details for boardwalk support.
 4. Paying costs for additional borings performed where existing soil conditions are substantially different from original borings.
- D. Inspection:
 1. A Geo-Technical Engineer will observe pile driving or pier installation operations and provide recommendations as necessary for improvement.
 2. Foundations and piles are required to be inspected by a geotechnical engineer to verify suitable bearing and construction.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 PREPARATION:

- A. Maintain benchmarks, monuments and other survey reference points. Re-establish, at no cost to the Owner, any such reference points if disturbed or destroyed.

- B. Maintain tree protection processes during the construction.
- C. Access to the boardwalk site shall be along an active trail route in the park. The contractor may not close this route during the construction process and must take care to not create hazardous conditions for park users during the process. All equipment moving along the access routes shall be accompanied by a flagman.

3.2 CLEARING:

- A. All trails, access pathways, and boardwalk routes shall be cleared by hand.
- B. No equipment may enter or traverse upon the protected wetlands.
- C. No vehicles shall leave the designated trails or access routes used to perform the work.
- D. All vegetation within the limits of the boardwalk shall be cut off at ground level by hand. Stumps shall be left in place. No equipment may touch the ground. Vegetative material may be shredded on site and broadcast over the area under the boardwalk. Contractor shall add nitrogen 33-0-0 to the surface of the mulch to increase decomposition rate.
- E. Remove trees and shrubs within the area to be cleared by hand. All trees to be saved within the construction limits are outside the boardwalk edge and are shown on the Drawings. Coordinate removal of trees and underbrush within the top-down construction area to be completed before piles are driven.
- F. Vegetative refuse and debris may be shredded on site and scattered in the natural areas or on the space to be covered by the boardwalk.
- G. New access paths shall be cleared by contractor extend existing trails and to avoid large trees. The vegetative refuse will be shredded and spread over the access path to serve as a cushion to protect the soil and adjacent tree roots.

3.3 STAKING:

- A. The Contractor shall stake the boardwalk route and the access paths, both as to location and elevation of finish grades. This stakeout may be accurate or rough, depending on the Contractor's preference. See Paragraph 1.6 of Section 01010 Supplemental Conditions.
- B. The purpose of the staking, with inspection and adjustment by the Landscape Architect, is to adapt the route to the site rather than allow the design to be forced upon the site. Staking is subject to various degrees of adaptation, which can only be determined by the Landscape Architect. This variation is an aesthetic decision; the amount of adjustment most often is determined by the existing trees, terrain,

soil conditions, surface water and by other intangibles, which are impractical to survey in absolute accuracy.

- C. The Contractor shall notify the Landscape Architect and Owners Representative at least three (3) working days before inspection of the stakeout must be made. During the inspection the Landscape Architect will adjust the stakeout as necessary to fit the trees, topography and all other objects and conditions on the site. At this time, the Landscape Architect will clearly mark the trees and other vegetation to be removed. This initial staking-inspection process must take place prior to any tree removal, grading, construction, or any other work on the site.
- D. During the inspection, the Contractor shall be at the site along with the person who will superintend the work under this contract.
- E. The staking-inspection process shall be repeated for any work not staked and approved or adjusted during the first site visit. No work shall ever be done without the stakeout first being adjusted and approved by the Landscape Architect. All alignment, dimensions and elevation of any construction is subject to adjustment to save trees and other vegetation.

3.4 TOPSOIL REMOVAL:

- A. No topsoil removal is anticipated in this project.
- B. Topsoil and mulch will be needed to repair the construction access points.

3.5 DISPOSAL OF REFUSE:

- A. The refuse resulting from the clearing operation that cannot be shredded can be hauled to a disposal site secured by the Contractor and shall be disposed of in accordance with all requirements of federal, state, county and municipal regulations. No debris of any kind shall be deposited in any stream, lake, backwater, or body of water, nor in any street or ditch. In no case shall any material be left on the site or shoved onto abutting private properties.
- B. Contractor may not dispose of construction generated refuse by burning or burial on site. All construction refuse, unused materials or debris must be removed from the site and properly disposed of offsite.
- C. Contractor may shred the removed vegetation into mulch and broadcast it under the boardwalk along the route of the top down construction. Logs or large limbs may be left on the surface to rot as long as they do not impede the flow of a stream, creek or other body of water.
- D. This is an active park and the contractor shall take great care to not damage any of the site outside the construction limits nor dispose of refuse materials in the park.

3.6 STAGING AREA:

Several site locations may be available to the Contractor for use in staging and storage are identified within the Park. These sites must be pre-approved by the Owner prior to utilization.

Other contractors may be working within the park area. Contractor is required to communicate and cooperate with other contractors in the best interest of all parties.

3.7 FINAL CLEANUP:

Contractor shall remove all construction debris, refuse, waste and leftover materials from the site.

Contractor shall remove all gravel, stone, or aggregate used in the construction entrance and along the extended trails access points.

The extended trails shall be smoothed out and any pits, dips, ruts, or depressions filled with a comparable topsoil and covered with a natural mulch to return the spaces to their natural appearance.

IN areas that were originally trails and were used for construction access, shall be returned to their preconstruction state.

Staging areas that were on the road shoulders must be returned to their natural, grassed or preconstruction appearance.

END OF SECTION 02100

SECTION 02112

TREE PROTECTION AND CLEANUP

PART 1 GENERAL

1.01 SCOPE

- A. Tree Protection: Selective site clearing, and pruning shall be accomplished in the area to be covered by new construction. Operations include but are not limited to the following:
 - 1. Staking of the plan on the site, removal of existing vegetation, selective pruning as directed by the Landscape Architect or City Arborist in the field, removal of underbrush, protection of existing trees designated to remain, and stream bank protection.
 - 2. Tree pruning and clearing for views of the lake and stream within the limits of work as defined on the construction documents and drawings. This clearing must be done under the direction of the owner's representative.
 - 3. Tree pruning of vegetation along the access pathways to allow contractor to pass along the route without encountering or breaking existing limbs or branches.
 - 4. Vegetation cut from the site may be shredded and spread as a cushion on the surface of the access paths.
- B. Site Cleanup: Removal of site debris from the site and restoration of the construction staging and access paths.

1.02 QUALITY ASSURANCE

- A. Code Compliance: The Contractor shall comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction over the Project. All required permits of a temporary nature shall be obtained for construction operations by the Contractor.
- B. Qualification of the Workmen: The Contractor shall provide at least one person who shall be present during tree cutting operations and direct the trimming and pruning where required.

1.03 JOB CONDITIONS

- A. Dust Control: Use all means necessary to prevent the spread of dust during performance of the work of this Section. Thoroughly moisten all surfaces as required to prevent dust being a nuisance to the work on the site and surrounding park areas.
- B. Erosion Control: Install and maintain erosion control devices as required to trap waterborne soil particles. As work progresses, relocate and/or add to erosion control system as necessary.
- C. Tree Protection: Protect existing trees and other vegetation indicated to remain. Protect existing trees against unnecessary cutting, breaking or skinning the roots, skinning and bruising the bark, smothering of trees by stockpiling construction materials or excavated

materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary fences, barricades, or guards as required to protect trees and vegetation to be left standing in staging and access areas.

- D. Provide protection for roots over 1 1/2" diameter that are damaged during construction operation. Coat any cut faces with acceptable coating, especially formulated for horticultural use on cut or damaged plant tissues. Temporarily cover all exposed roots with wet burlap to prevent from drying out; provide earth cover as soon as possible
- E. Repair or replace trees and vegetation damaged by construction operations, in a manner acceptable to the Landscape Architect. Tree damage repair shall be performed by a qualified tree surgeon. Replace trees, which cannot be repaired and restored to full-growth status, as determined by an Arborist.
- F. Protect existing city streets and shoulders from damage by construction traffic and storage.
- G. Protect existing tails and park vegetation from damage during construction.

PART 2 PRODUCTS

2.01 TEMPORARY BARRICADES:

- A. Unless otherwise approved by the Landscape Architect or City Arborist, use only new and solid lumber of utility grade or better to construct temporary barricades around trees and areas designated to remain undisturbed.
- B. In the wetland areas adjacent to the boardwalk construction area, the contractor may use tree protection tape or plastic fence. No equipment should be on the ground to damage the roots of adjacent trees in the top down construction area.

2.02 PRUNING PAINT:

- A. Use only a pruning paint specifically formulated for horticultural application to cut or damaged plant tissue and approved by the Landscape Architect for use on this work. Preferably, use 'Orange Shellac' as pruning paint when available.

PART 3 EXECUTION

3.01 SITE INSPECTION:

- A. Prior to any work on site, carefully inspect the entire site and all objects designated to be removed and to be preserved. Locate all existing utility lines traversing the site within the work limits and determine the requirements for the protection of those designated to remain.

3.02 SCHEDULING:

- A. Schedule all work in a careful manner with all consideration for neighbors and the general public, in conformance with local noise ordinances.
- B. Notify the Landscape Architect at least five (5) full working days prior to commencing any work of this section.

3.03 DISCONNECTION OF UTILITIES:

- A. Before starting site operations, disconnect or arrange for the disconnection of any utility services that inhibit performing all such work in accordance with the requirements of the utility company or agency involved.

3.05 DEMOLITION: See Section 02060

3.06 MULCH:

- A. 1" topping of pine straw or shredded site vegetation shall be placed as mulch in all disturbed areas within the limits of the work without digging into or breaking up the surface roots of trees.
- B. Contractor may shred vegetative debris and refuse to use as mulch when nitrogen 33-0-0 is included in the new raw mulch.

3.07 CLEARING:

- A. Cut by hand all brush, rubbish and any other tall plants within the limits of the boardwalk to be removed. No stumps shall be removed, or roots cut without prior approval of Landscape Architect or Owner's Representative. Cut all limbs and branches hanging into the access paths to allow for movement of construction equipment.
- C. Do not remove stumps under the boardwalk or in areas designated to remain natural.

3.08 STAGING:

- A. Staging shall be kept at a minimum in order to reduce the impact of the construction on the natural systems. Part of the access trail may be used for staging if barricaded to prevent access by the general public. Areas of the existing road shoulder and parking spaces may be used for construction parking and staging if approved by the owner.
- B. Disruption of the existing grade in the protected woodlands is prohibited by permit. There shall be no disruption of the existing grade in the wetlands.
- C. Damage to adjacent existing trees in the staging, access and woodland areas should be kept to a minimum with no heavy machinery parked under or near natural woodlands.
- D. Vehicles may not turn around or park under the trees in the woodland areas.

- E. Staging and operations may occur in the open areas where there are no trees or on the shoulders of the roads with prearrange permission from the city. Any damage to existing conditions as a result of construction operations or access shall be repaired and returned as near to natural conditions as much as possible.
- F. Materials delivery along the existing and extended trails shall be done with mid to small size rubber tire equipment and vehicles. Vehicles shall not turn around on the trails but shall move directly in and out by straight forward or backing movements.
- G. All movement of materials or vehicles by the contractor along the access trail systems shall be accompanied by a flagman to protect the safety of citizens who may be on the trail.
- H. Contractor may not park or stage materials on the existing trail system.
- I. Contractor may fence off and prevent unwanted access by vehicles or personnel at the two extended trail entrance points.

3.10 EROSION CONTROL:

Install erosion control measures (i.e. silt socks, fences, rip rap, straw bales, check dams) as necessary during construction to prevent erosion of disturbed areas and prevent damage to downstream property from runoff and silt.

3.11 CLEANUP:

- A. Contractor shall be responsible for removing all rubbish, refuse, waste, debris, unused materials and other products or elements resulting from the construction effort.
- B. All the natural mulch areas disturbed by the construction activity shall be repaired by raking back to natural grade and covering with a 1" layout of natural mulch. All pruning rubbish shall be removed from the site or spread as mulch in the natural areas.
- C. Contractor shall remove all gravel, stone, or aggregate used in the construction entrance and along the extended trails access points and fill with comparable topsoil.
- D. The extended trails used for access shall be smoothed out and any pits, dips, ruts, or depressions filled with a comparable top soil and covered with a natural mulch to return the spaces to their natural appearance.
- E. IN areas where the original trails were used for construction access, the surface shall be returned to their preconstruction condition.
- F. Staging areas that were on the road shoulders or parking spaces must be returned to their natural, grassed or preconstruction appearance.

END OF SECTION 02112

SECTION 02125

EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.01 SCOPE:

- A. The contractor shall be responsible for preparing Erosion Control plans as part of his Project Drawings in compliance with the state law and the general referenced conditions of these specifications.
- B. Work described in this section includes the containment of sediment transport, control of erosion and treatment of pollutants prior to, during and throughout all construction operations; establishment of permanent vegetative cover and continued maintenance of said measures in accordance with Part III, paragraph 3.4 of this section.
- C. This Section also specifies removal of temporary erosion and sedimentation controls.
- D. Temporary and permanent erosion and sedimentation controls include grassing and mulching of disturbed areas and structural barriers at those locations, which will ensure that erosion during construction will be maintained within acceptable limits. Acceptable limits are as established by the Georgia Erosion and Sedimentation Control Act of 1975, as amended, Section 402 of the Federal Clean Water Act, and applicable codes, ordinances, rules, regulations and laws of local, state, and municipal authorities having jurisdiction. All fines imposed for improper erosion and sedimentation control shall be paid by the Contractor.
- E. LDP: The city has declared that the project does need a Land disturbance permit even though we are consistent with the Top-down Construction of the boardwalk/bridge. There will be land disturbance to construct and extend the existing trails to serve as access paths.
- F. ACOE: The Army Corps of Engineers has issued a '*Letter of No Permit*' for the project as long as we are consistent with the Top-down Construction of the boardwalk/bridge and driving the piles or piers without putting machinery on the surface of the wetland soils.
- G. EPD: We do not need a stream buffer variance to build the boardwalk as long as we cross the buffer at about 90 degrees and to do not damage the ground plain as we go over it with Top Down construction. See '*letter of No Permit*' in the Appendix of this manual.
- H. All control measures shown on the Drawings are to be considered the minimum required; additional measures may be required. Provide same as required.
- I. Contractor is solely responsible for protection of downstream properties from encroachment or damage from soil erosion and/or the discharge of pollutants by water or air to any areas off the Project site.

1.02 SUBMITTALS:

- A. Four complete copies of engineering data, including shop drawings, for all products shall be submitted to the Landscape Architect and Engineer for approval.
- B. Schedule of operations: Submit schedule of exact dates operations including program of erosion, sediment and pollution control measures, maintenance of all said measures including control facilities, structures and devices and vegetative practices. Show anticipated starting and completion dates for land-disturbing activities including excavation, filling and rough grading, finished grading, construction of temporary and permanent control measures, and disposition of temporary erosion sediment and pollution control measures.

1.03 PROJECT CONDITIONS:

- A. Furnish and install all control measures prior to or concurrent with any land disturbance activity. The Contractor is responsible for the initial provision and installation of all control measures and then the continued provision and installation of all measures throughout all construction operations and all sequences of construction operations.
- B. Schedule grading operations to allow permanent erosion control to take place in the same construction season. Avoid or minimize exposure of soils to winter weather. Maintain all controls until vegetative cover has been established.
- C. Construct and maintain temporary control measures until such time as permanent measures are effective in control of erosion, sediment and pollution from the site. Extent of measures shall be responsibility of Contractor.
- D. Stop all erosion, sediment or pollution from leaving the site and encroaching on downstream or surrounding properties.
- E. Temporary grassing shall be applied to all disturbed areas left idle for 72 hours.
- F. Contractor is responsible for all quantities of all control measures regardless if shown on the Drawings. The extent of soil erosion control measures shown on the Drawings should be considered minimum.
- G. All expenses related to the removal, relocation, replacement and/or rerouting of any and all existing utilities or other built, stored, stockpiled items of any kind, surface or subsurface is the responsibility of the contractor and will be included in the Contract Sum.

1.04 QUALITY ASSURANCE:

- A. Procedures shall comply with "Manual for Erosion and Sediment Control in Georgia", latest edition published by the Georgia Soil and Water Conservation Committee." Contractor is required to keep a logbook on site documenting his inspection of all control devices (minimum once/week and within 24 hours of any storm event) and noting any corrections or modifications. General Contractor must also file a "Notice of Termination" when the site is finally stabilized, and all stormwater management systems have been constructed and have been proven to be functioning in accordance with the Design Concept(s).

- B. The temporary and permanent erosion and sedimentation control measures shown on the Drawings are minimum requirements. Any additional erosion and sedimentation control measures required by the Contractor's means, methods, techniques and sequence of operation will be installed by the Contractor at no additional cost to the Owner
- C. Reference the Drawings for any other procedural manuals, publications, permits or other field guidelines required for the Contractor to obtain, understand and utilize in the performance of his work. Be reference of same, said materials are made a part of these Specifications.
- D. The temporary and permanent erosion and sedimentation control measures shown on the Drawings are minimum requirements. Any additional erosion and sedimentation control measures required by the Contractor's means, methods, techniques and sequence of operation will be installed by the Contractor at no additional cost to the Owner.
- B. Perform all work under this Section in accordance with all pertinent rules and regulations including, but not necessarily limited to, those stated in these Specifications. Where provisions of pertinent rules and regulations conflict with these Specifications, the more stringent provisions shall govern.
- C. Provide all materials and promptly take all actions necessary to achieve effective erosion and sedimentation control in accordance with the Georgia Erosion and Sedimentation Control Act of 1975 as amended (OCGA §12-7-1, et. seq.), local ordinances, other permits, local enforcing agency guidelines and these Specifications.
- D. Basic Principles:
 - 1. Coordinate the land disturbance activities to fit the topography, soil types and conditions.
 - 2. Minimize the disturbed area and the duration of exposure to erosive elements.
 - 3. Provide temporary or permanent stabilization to disturbed areas immediately after rough grading is complete.
 - 4. Safely convey run-off from the site to a stable outlet to prevent flooding and damage to downstream facilities resulting from increased runoff from the site.
 - 5. Retain sediment on-site that was generated on-site.
 - 6. Minimize encroachment upon watercourses.
- E. Implementation:
 - 1. The Contractor is solely responsible for the control of erosion within the Project site and the prevention of sedimentation from leaving the Project site or entering waterways.
 - 2. The Contractor shall install temporary and permanent erosion and sedimentation controls, which will ensure that runoff from the disturbed area of the Project site shall pass through a filter system before exiting the Project site.
 - 3. The Contractor shall provide temporary and permanent erosion and sedimentation control measures to prevent silt and sediment from entering any waterways and any designated wetland areas.
 - 4. The Contractor shall limit land disturbance activity to areas shown on the Drawings.
 - 5. The Contractor shall maintain erosion and sedimentation control measures within disturbed areas on the entire site at no additional cost to the Owner until the final

acceptance of the Project. Maintenance shall include mulching, re-seeding, clean out of sediment barriers and sediment/detention ponds, replacement of washed-out or undermined rip rap and erosion control materials, to the satisfaction of the Owner and Landscape Architect.

PART 2 - PRODUCTS

2.01 SEDIMENT BARRIER:

- A. Silt Fence:
 - 1. Type A silt fence shall meet the requirements of Section 171 of the Georgia Department of Transportation Standard Specifications, latest edition.
 - 2. Type C Silt Fence is a combination of Type A silt Fence with woven wire reinforcement. Type C Silt Fence reinforcement shall meet the requirements of Section 171 of Georgia D.O.T. Specifications. Netting shall be ½ - inch, galvanized steel, chicken wire mesh.
 - 3. Silt fence fabric shall be an approved product on the Georgia DOT Qualified Product List No. 36, latest edition.
- B. Hay Bales: Hay bales shall be clean, seed-free cereal hay, rectangular in shape and contain five cubic feet or more of material.
- C. Filter stone shall be crushed stone conforming to Georgia Dept. of Transportation Table 800.0IH, Size Number 3.
- D. Erosion Control socks to be used where tree roots should not be cut by silt fence trencher.

2.02 CONSTRUCTION EXIT STONE:

- A. Use sound, tough, durable stone resistant to the action of air and water. Slabby or shaley pieces will not be acceptable, aggregate size shall be in accordance with the National Stone Association Size R-2 (1.5 to 3.5-inch stone) or Type 3 riprap stone conforming to Section 805.01 of the Georgia Department of Transportation Standard Specifications.

2.03 CONCRETE:

- A. Concrete shall have a compressive strength of not less than 3,000 psi, with not less than 5.5 bags of cement per cubic yard and a slump between 3 and 5-inches. Ready-mixed concrete shall be mixed and transported in accordance with ASTM C94.

2.04 RIP RAP:

- A. Stone Rip Rap: Use sound, tough, durable stones resistant to the action of air and unless noted otherwise, stone riprap shall be Type 1.
 - 1. Type 1 Rip Rap: Size and gradation shall conform to Section 805.01 of the Georgia DOT Standard Specification for Type 1 Stone Dumped Rip Rap.
 - 2. Type 3 Rip Rap: size and gradation shall conform to Section 805.01 of the Georgia DOT Standard Specifications for Type 3 Stone Dumped Rip Rap.

3. River Stone: Where designated Contractor shall use river stone comparable to Type 1.

2.05 PLASTIC FILTER FABRIC:

- A. All plastic filter fabric shall conform to the Georgia Department of Transportation Standard Specifications, Section 881.06 for non-woven filter fabrics on most applications for this project, except for underneath riprap areas or stone construction entrances.
- B. A plastic filter fabric shall be an approved product on the Georgia Department of Transportation Qualified Product List No. 28, latest edition.
- C. Filter fabric for silt fences shall be a 36" Georgia DOT approved pervious sheet of synthetic polymer filaments non-woven from continuous filaments with wire fence backing. Filter fabric shall be of type recommended by its manufacturer for the intended application. The filter fabric shall meet the following requirements:
 - 1. APS 600 Series Silt Stop, as manufactured by Applied Polymer Systems, Woodstock, Georgia, Contact Steve Iwinski (678) 494-5998.
 - 2. GeoPolymer as manufactured by GeoStop.
 - 3. Soil Mulch Polymer as manufactured by Soil Mulch.
- D. Polymer shall be applied utilizing a hydro seeder mix of appropriate seed, fertilizer, lime and mulch for the same acre or without seed/fertilizer/lime/mulch mix.
- E. Follow all manufacturers' instructions and recommendations. Do not mechanically disturb treated areas after application. (This does not include foot traffic as necessary to install erosion control blanket).
- F. Contractor shall furnish and install as necessary a minimum 200 lbs. of erosion control polymer for incidental "touch-up" or "point source erosion areas".
- G. Furnish two forms of synthetic polymer:
 - 1. Emulsion polymer for hydro seeder application with 30% active strength.
 - 2. Powder polymer for hand spreading with an active strength of 95%.

2.06 GRASSING:

- A. Grassing materials shall meet the requirements of the following sections of the Georgia Department of Transportation Standard Specifications, latest edition:

Material	Section
Topsoil	893.01
Seed and Sod	890
Fertilizer	891.01
Agricultural Lime	882.02
Mulch	893.02
Inoculants	893.04

- B. Seed species shall be provided as shown on the Drawings.

- C. Mulch Binder: Mulch on slopes exceeding 3 (horizontal) to 1 (vertical) shall be held in place by the use of a mulch binder, as approved by the Project Landscape Architect. The mulch binder shall be non-toxic to plant and animal life and shall be approved by the Project Landscape Architect.
- D. Water: Water shall be free of excess and harmful chemicals, organisms and substances, which may be harmful to plant growth or obnoxious to traffic. Salt or brackish water shall not be used. Water shall be furnished by the Contractor.

PART 3 - EXECUTION

3.01 GENERAL:

- A. Temporary and permanent erosion and sedimentation control measures shall prevent erosion and prevent sediment from exiting the site. If, in the opinion of the Owner or Project Landscape Architect, the Contractor's temporary erosion and sedimentation control measures are inadequate, the Contractor shall provide additional maintenance for existing measures or additional devices to control erosion and sedimentation on the site at no additional cost to the Owner.
- B. All erosion and sedimentation control devices and structures shall be inspected by the Contractor at least once a week and immediately after to each rainfall occurrence. Any device or structure found to be damaged shall be repaired or replaced by the end of the day.
- C. All erosion and sedimentation control measures and devices shall be constructed and maintained as indicated on the Drawings or specified herein until adequate permanent disturbed area stabilization has been provided and accepted by the Project Landscape Architect. Once adequate permanent stabilization has been provided and accepted by the Project Landscape Architect, all temporary erosion and sedimentation control structures and devices shall be removed.

3.02 TEMPORARY EROSION CONTROL DEVICES:

- A. Construct temporary sediment barriers of silt fence at all points where surface water flows from construction area bypassing a temporary sediment traps if the area is subject to soil erosion; or as otherwise indicated on Drawings or as deemed necessary by inspectors.
- B. Install temporary sediment traps and temporary sediment basins in accordance with the location and details shown on the Drawings. Remove accumulated sediment when they are one-third full of silt continually until permanent vegetative cover is established.
- C. Install construction exit as indicated on Drawings. Maintain to prevent tracking and flow of mud onto public roads.
- D. Construct diversion berms, dikes (2'-0" wide x 1'-6" tall) or ditches at the tops of all slopes or otherwise indicated on the Drawings. Machine compact these elements and plant temporary seed until permanent vegetative cover can be established.

- E. Maintain temporary barriers until permanent erosion control measures are established.
Repair and replace barriers damaged or displaced by construction activity

3.03 SEDIMENT CONTROL:

A. Construction Exit:

1. Construction exit(s) shall be placed as shown on the Drawings and as directed by the Project Landscape Architect. A construction exit shall be located at any point traffic will be leaving a disturbed area to a public right-of-way, street, alley, sidewalk, or parking area.
2. Placement of Construction Exit Material: The ground surface upon which the construction exit material is to be placed shall be prepared to a smooth condition free from obstructions, depressions or debris. The plastic filter fabric shall be placed to provide a minimum number of overlaps and a minimum width of one foot of overlap at each joint. The stone shall be placed with its top elevation conforming to the surrounding roadway elevations. The stone shall be dropped no more than three feet during construction.
3. Construction Exit Maintenance: The Contractor shall regularly maintain the exit with the top dressing of stone to prevent tracking or flow of soil onto public rights-of-way and paved surfaces as directed by the Project Landscape Architect.
4. Construction Exit Removal: Construction exit(s) shall be removed and properly disposed of when the disturbed area has been properly stabilized, the tracking or flow of soil onto public rights-of-way or paved surfaces has ceased and as directed by the Owners Representative. Final cleanup shall be in accordance with Section 022975.

B. Sediment Barriers:

1. Sediment barriers shall include, but are not necessarily limited to, silt fences, hay bales, and any device, which prevents sediment from exiting the disturbed area.
2. Silt fences and hay bales shall not be used in any flowing stream, creek or river.
3. Sediment barriers shall be installed as shown on the Drawings and as directed by the Owner or Project Landscape Architect.
4. Sediment barriers shall be maintained to ensure the depth of impounded sediment is no more than one-half of the original height of the barrier or as directed by the Project Landscape Architect. Torn, damaged, destroyed or washed-out barriers shall be repaired, reinforced or replaced with new material and installed as shown on the Drawings and as directed by the Owner or Project Landscape Architect.
5. Sediment Barrier Removal:
 - a. Sediment barrier shall be removed once the disturbed area has been stabilized with a permanent vegetative cover and the sediment barrier is no longer required as directed by the Project Landscape Architect.
 - b. Accumulated sediment shall be removed from the barrier and replaced and stabilized on site as directed by the Owner or Project Landscape Architect.
 - c. All non-biodegradable parts of the barrier shall be disposed of properly.
 - d. The disturbed area created by barrier removal shall be permanently stabilized.

3.4 GROUND COVER

- A. Protect all exposed soils with mulching (temporary measure) and vegetative ground cover (permanent measure).
- B. Ground cover consists of temporary seeding on all graded areas which will not receive final grading or permanent planting within three (3) days.
- C. All grassing, or planting operations shall include mulching as stabilization until ground cover by planting is effective.
- D. Reseed as required until full vegetative coverage is established.

3.5 MAINTENANCE

- A. Inspect all control elements after each rainfall event and a minimum of every two (2) weeks when no rainfall event(s) occur. Clear all debris and accumulated sediment from behind barriers when half full so their functional capacity is not reduced. Repair and replace any and all damaged measures of any kind.
- B. Contractor is expected to maintain the erosion control compliance in accordance with NPDES Standards. See Section 02125B of this Project Manual.
- B. Maintain all erosion, sedimentation, pollution control measures for delivery of correct pond volume for a period of thirty (30) calendar days.

3.6 REMOVAL OF TEMPORARY EROSION CONTROL DEVICES

- A. Remove all debris resulting from temporary erosion control from Project site.
- B. Control dust from disturbed areas by means of mulching, irrigation, calcium chloride or other method subject to the Engineer's review.

3.07 CLEAN-UP:

- A. Dispose of all excess erosion and sedimentation control materials in a manner satisfactory to the Owner and Landscape Architect.
- B. Final clean up shall be performed in accordance with the requirements of these Specifications and Section 02975 Cleanup and to the satisfaction of the Owner and Landscape Architect.

END OF SECTION 02125

SECTION 02852

BOARDWALK / BRIDGE CONSTRUCTION

PART 1: GENERAL

1.01 SCOPE

This Section describes materials, equipment, and requirements for their use in constructing all boardwalk/bridge items, including the substructure, pre-engineered superstructure and top down on-site construction. The Contractor shall furnish all materials and equipment and perform all labor necessary to fulfill the requirements of this Section. The bridge manufacturer or provider shall coordinate the delivery of the boardwalk/bridge materials with the Installation Contractor and Owner's Representative.

Contractor shall design and produce a set of shop drawings to build and support a boardwalk/bridge over the wetlands / creek on the north end of Murphey Candler Lake.

Contractor shall determine the type of foundation to be used to support the boardwalk / bridge. Soil tests have been made to aid the contractor in this work. If contractor determines that additional borings are needed, he will include that cost as his cost of construction.

Foundations may not be excavated in the wetlands but must be pile driven or screwed in place. Excavation will void the Letter of No Permit from the ACOE and require the contractor to secure a Nationwide ACOE permit.

Contractor shall prepare shop drawings to illustrate the foundation, structure, and construction methods for the boardwalk/bridge. Shop drawings must be approved by the Owners Consultant prior to construction.

Contractor is responsible for obtains all local and state permits as necessary to construct the boardwalk/bridge. See Section 02100 Site Preparation for list of permits.

1.02 REFERENCES

- A. The Standard Specifications for:
Section 02100 Site Preparation
Section 06100 Rough Carpentry
Section 05661 Helical Piers (piles) *(if opted by the design build contractor)*
- B. Contractor has been provided schematic plans that represent the length, height, width and location of the boardwalk/bridge desired for the project. Contractor is free to develop his own structure, means, methods, and process for construction a top-down design / build execution of the boardwalk / bridge that conforms the schematic layout.

- C. The location of the boardwalk/bridge has been roughly staked in the field by the landscape architect as reference for the contractor. Contractor is required to visit the site and walk the entire length of the boardwalk / bridge to understand the conditions.
- D. Soil borings have been taken by the Owner and referenced on a map and in a report included in the Appendix of this Project Manual.
- E. Clearing trees and brush for the boardwalk/bridge shall be done by hand in accordance with Section 02100 Site Preparation.
- F. Boardwalk/Bridge shall be designed to DOT 100 lb. live load doe pedestrian bridge with a maximum of 2500 lbs. for small vehicles.
- G. Notice signs shall be placed at both ends of the boardwalk/bridge identifying maximum loading.
- E. The Standard Specifications for Highway Bridges, Fifteenth Edition, 1992, of the American Association of State Highway and Transportation Officials, as amended by the Interim Specifications-Bridges-1993, are made a part of this Section by reference for design of all bridge components, except as modified herein. The 1992 Standard Specifications for Highway Bridges and the 1993 Interim Specifications shall be referred to herein as the AASHTO Specifications

1.03 QUALIFICATIONS

Submit evidence that suppliers and installers have consistently constructed products of satisfactory quality and performance for a period of at least two (2) years.

1.04 FOUNDATIONS/ABUTMENTS

- A. It shall be the responsibility of the boardwalk / bridge manufacturer to furnish support reactions, and anchor bolt placement details. The bridge manufacturer shall coordinate this information with the Contractor.
- B. Contractor shall prepare shop drawings to conform to the requirements for supporting the boardwalk/bridge abutments. Shop drawings must be reviewed and approved by Project Landscape Architect / Engineer prior to installation of materials.

1.05 SUBMITTALS

- A. Complete Shop Drawings including fabrication and erection drawings and complete structural design calculations and engineering data for the proposed boardwalk/bridge structure shall be submitted to the Project Landscape Architect prior to fabrication in accordance with the requirements of Section 01300 of these Specifications. Drawings shall show all construction details, materials to be provided by General Contractor and complete boardwalk/bridge specification for all boardwalk/bridge materials. All

drawings shall be signed and sealed by or professional engineer registered in the State of Georgia.

- B. Complete product data for the abutments and materials shall be submitted to the Project Landscape Architect in accordance with the requirements of Section 01300 of these Specifications.

1.06 QUALITY ASSURANCE

- A. The supplier and installer shall provide written certification to the Project Landscape Architect that all products furnished comply with all applicable requirements of these Specifications.

PART 2 – PRODUCTS

2.01 CONCRETE STRUCTURES

- A. All concrete and its components if used for construction of the boardwalk/bridge substructure and foundations shall meet the requirements of the Georgia Standard Specifications. Class A, $f'c = 3,500$ psi, concrete shall be used for the substructure.

2.02 STEEL STRUCTURE

- A. The boardwalk/bridge shall be designed in accordance with the AASHTO Specifications. The following design parameters shall be used:
 - 1. The structure shall be designed to a sufficient capacity to support either a sidewalk live load of a minimum of 90 pounds per square foot or 2500 lbs truck loading, including impact and fatigue considerations.
 - 2. The structure shall meet the requirements for a single span bridge in Seismic Performance Category A.
 - 3. The side railings shall meet all requirements for a bicycle railing.
 - 4. The minimum roadway width measured between trusses shall be as shown on the Construction Drawings.
 - 5. Bearings and anchor bolts shall be designed and provided as part of the pre-engineered structure. Anchor bolt templates or a detailed anchor bolt layout shall be provided to the Contractor. Thermal expansion and contraction shall be considered.
- B. All steel and steel components used in the boardwalk/bridge shall meet the requirements of the Georgia Standard Specifications. Structural steel shall be ASTM A 709, Grades 50W (weathering Steel).
- C. Field splices shall be fully bolted with ASTM type 3 high strength bolts in accordance with “Specifications for Structural joints using ASTM A325 or A490 Bolts.

- D. All welding, welder qualifications, pre-qualification of weld details and inspection of welds for the pre-engineered superstructure shall meet the requirements of the AWS Welding Code.
- E. Steel members shall be cleaned and painted in accordance with Subsection 535.04.A.1 of the Georgia Standard Specifications.
- F. All main load carrying members and components subject to tensile stress within the boardwalk/bridge shall be clearly designated on the shop drawings and shall meet the Charpy V-Notch test requirements as specified in of the Georgia Department of Transportation Standard Specifications.
- G. Geometry:
 - 1) Truss: Determined by the design. However, they must span any water channel with moving water from bank to bank.
 - 2) Diagonals: Add to support structure when bridge pile is over 5' vertical to beam.
 - 3) Camber: Bridge shall be cambered to 1.5% cross slope for the total span length.
 - 4) Localized running deck slopes shall not exceed 5.0%.
 - 5) Bridge shall accommodate abutment elevation differences as shown on the drawings.

2.03 EXPANDED MORTAR

- A. Expanded mortar and its components shall meet the requirements of the Georgia Department of Transportation Standard Specifications.

2.04 REINFORCEMENT STEEL

- A. All reinforcement steel used for construction of the bridge substructure and the pre-engineered superstructure shall conform to the Georgia Department of Transportation Standard Specifications, except as modified herein.
- B. All metal parts shall be hot-dipped Galvanized.

END OF SECTION 02855

SECTION 02889

WOODLAND TRAIL CONSTRUCTION

PART 1 GENERAL

All the General and Special Conditions of the contract shall apply to this section

See sections on Earthwork, Site Preparation, Tree Protection, and Grading for reference to this section

Access Pathways: The north boardwalk crosses a wetland above Murphey Candler lake from East to West. The only access to build the boardwalk is along existing earthen trails within the park. These specifications define how the contractor will extend, widen and upgrade these trails to allow for construction access on the East and West sides of the project site.

Project includes two types of woodland trails:

1. Extension of existing park trails to be used as access pathways for construction.

1.01 Summary

- A. The process of building trails (access paths) in the natural environment is a design – build interactive process between the contractor, landscape architect and owner.
- B. The objective is to carefully mold the trail layout and construction to carefully fit the natural conditions of the site topography and vegetation without doing any unnecessary damage.
- C. The soils shall not be disturbed any more that is absolutely necessary.
- D. The layout shall be field adjusted and fitted to the site to avoid important trees.
- E. Switchbacks will not accommodate the needs of construction access.
- F. Interruption of the natural flow of runoff is to be avoided.
- G. Clearing and grading shall be done with hand tools and small walk-behind power tools and carts if necessary.
- H. Routing, widening or extension of the existing trails shall be approved in the field by the Owner's Representative before construction begins.
- I. Contractor must become familiar with the process prior to pricing the project.

1.02 Quality control

- A. The contractor shall demonstrate that he has access to adequate small-scale walk-behind equipment to perform the work as herein specified.
- B. The contractor shall demonstrate that he has at his disposal adequate manpower to perform the hand labor as herein defined.
- C. The contractor shall provide a superintendent familiar with and experienced in the process on design / build of small woodland trail projects.
- D. Contractor and superintendent shall work in close contact with the landscape architect and owner's staff during the execution of this phase of the work.

- E. Contractor shall arrange to have an orientation on site for his superintendent and crew that are designated to extend or widen the trails, prior to beginning the construction process

1.03 Description of work

- A. Field flag of the proposed trail extension and construction
- B. Hand clear the proposed route using small rubber tire equipment as needed.
- C. Grading of the proposed route extension by using small walk behind equipment.
- D. Construction of small retaining walls of wood or native stone along the trail route as needed or identified on site.
- E. Installation of drain swales, or pipes as needed to prevent diversion of natural drainage runoff flow.

PART II PRODUCTS

2.01 Design Process

- A. The initial route extension is shown on the Project Drawings over an existing topographic map of the site.
- B Contractor shall flag the layout of the route as best shown on the Project Drawings with pin flags every 20 feet along the proposed trail extension.
- C. Landscape Architect shall walk the flags to make field adjustments to the trail.
- D. Contractor, owner and landscape architect shall walk the adjusted layout to verify and finalize the location.
- E. Contractor shall proceed to construct the trail extension as defined by the team.

2.02 Design Process

A. Design Criteria

1. Slopes

- a. Overall slope shall not exceed 5%
- b. Cross slopes shall not exceed 3 – 5 %
- c. Out-slopes shall not exceed 3 – 5%
- d. Running slopes shall not exceed 8% at any point on the trail
- e. Running slope shall never exceed 50% of the existing side slope

2.

Trail

- a. Width of trail shall be 9-12' for construction access pathways.”
- b. Trail surface shall be compacted natural soils
- c. All loose rock shall be removed from the surface of the trail
- d. All embedded rock protruding in the trail shall be removed.
- e. All tree roots protruding above the walking surface shall be removed or covered with natural soil.
- f. Remove and place all logs along the downhill edge of the trail
- g. All fill soil shall be hand tamped and compacted.
- h. New trail shall be roll compacted upon completion

B. Equipment

- 1. Contractor shall have the following equipment available for the project
 - a. Small rubber tier “gator” or similar four-wheel ATV

- b. Small walk behind “dingo” or similar excavator
- c. Drum rollers 3’ wide like the type used for compacting sod
- d. Rubber tire bobcat with front end bucket
- e. Motorized wheel barrels or similar earth moving equipment
- f. Pull behind chipper for grinding vegetative materials
- g. Chain saws, pole saws and other tools for hand clearing and grading.

PART III EXECUTION

3.01 Staking

- A. The contractor shall stake the initial master plan routing by setting pin flags every 20’ along the proposed trail extension.
- B. Contractor shall walk the stakeout with the landscape architect to review the field adjustments made by the landscape architect

3.02 Clearing

- A. Contractor shall proceed to remove vegetation on the trail extension by using hand labor
- B. Corridor shall be pruned of all underbrush extending into the trail width.
- C. Corridor to be cleared of all low hanging limbs that would inhibit construction equipment access to the boardwalk.
- D. Vegetative matter may be shredded and blown out into the adjacent woods
- E. All mulch and vegetative matter inside the surface of the trail bed shall be raked off the trail and thrown down hill from the trail bed.
- F. Logs, stumps, debris and rocks shall be removed.
- G. Loose stones shall be placed along the edge of the trail to be used for stability.

3.03 Grading

- A. Upon completion on the clearing, grading operations may begin
- B. Contractor shall proceed to grade the trail bed by using small walk behind and rubber tire equipment to prepare the trail bed.
- C. Contractor shall construct all drainpipes, swales and other tail elements as he progresses along the route.
- D. Upon completion of the trail, the contractor shall roll compact the finished trail by pulling a water filled drum roller behind a small ATV to finish compacting the trail.
- E. Trail to be used as a construction access shall be heavy roll compacted and spread with a layer of GAB to stabilize the surface for construction equipment.
- F. Construction Access Pathways will also be required to have a standard Erosion Control Access bed at the point where traffic leaves the site and enters an off-site roadway. See erosion control plans for locations and details.

3.04 Cleanup

- A. Upon completion of the construction, the contractor shall clean up the site

- B. Contractor shall remove all leftover materials, loose soil, debris and mulch left on are near the finished trails or path.
- C. Extended trails shall be cleaned up by removing gravel, stone and debris from the surface of the trail. Dips, pits, ruts shall be filled with comparable topsoil and fine graded to match the existing conditions and covered with a natural mulch.
- D. Construction Access points shall have the stone and gravel removed from the site and the space filled with comparable soils and smoothed to original grade and surface treated to match preconstruction conditions.

END OF SECTION 02889

SECTION 02975

CLEANUP

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish labor, materials, and equipment required to complete cleanup of all construction areas and all other areas outlined on the drawing.
- B. Chemicals, paints, cleaning products, concrete or other waste materials shall not be discarded onto the site. If such materials are discharged on the site, the contractor shall remove the contaminated soils and replace with viable soil.
- C. Debris shall not be dumped on any part of the property or any unauthorized place. All debris, construction material, equipment, stumps, roots, lumber or any other extraneous material deposited during construction shall be removed from the site.
- D. Remove all remaining construction debris, materials, spoils, and equipment from the site.
- E. All disturbed areas shall be covered with 3” layer of pine straw or other natural mulch.
- F. All Access Pathways that are to remain as trails must be smoothed and compacted to recreate the original walking surface. All excess debris and construction refuse shall be removed from the trails.
- G. Extended trails shall be cleaned up by removing gravel, stone and debris from the surface of the trail. Dips, pits, ruts shall be filled with comparable topsoil and fine graded to match the existing conditions and covered with a natural mulch.
- H. Construction Access points shall have the stone and gravel removed from the site and the space filled with comparable soils and smoothed to original grade and surface treated to match preconstruction conditions.

END OF SECTION 02975

SECTION 05663

HELICAL PILES (PIERS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. If the contractor uses a pile other than Helical Piers, this specification Section is null and void.
- B. Sample: The following specifications are provided only as a sample for the contractor. The final specification shall be established as part of the Contractors shop drawings for the boardwalk/bridge if the contractor chooses to use Helical Piers.
- C. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- D. Related Sections include the following:
 - 1. Division 03 Section “Cast-In-Place Abutment” for concrete and reinforcing steel if the contractor chooses to use a concrete abutment for the bridge sections.
- E. The Geotechnical report for the boardwalk is included in the Appendix of this Project Manual and is available for use by the contractor.

1.2 SUMMARY

- A. This Section specifies the furnishing and installation of helical piles, related bracket assemblies, placement procedures and testing.
- B. Add Alternate: The contractor shall provide an additional cost per linear foot for helical piers in the event that additional piers are needed based on unknown site conditions.

1.3 DEFINITIONS

- A. Helical Pile: Manufactured steel foundation piles with one or more helical bearing plates that is rotated into the ground to support structures.
- B. Lead Section: The first section of a Helical Pile to enter the ground. Lead Sections consist of a central shaft with a tapered end and one or more helical bearing plates affixed to the shaft.
- C. Extension Section: Helical Pile sections that follow the Lead Section into the ground and extend the Helical Lead to the appropriate depth. Extension Sections consist of a central shaft and may have helical bearing plates affixed to the shaft.
- D. Brackets: Cap plate, angle, thread bar, or other termination device that is bolted or welded to the end of a helical pile or helical anchor after completion of installation to facilitate attachment to structures or embedment in cast-in-place concrete.
- E. Auguring: Rotation of the shaft with little or no advancement. It can occur when the helical bearing plates pass from a relatively soft material into a comparatively hard material. Auguring can also result from insufficient crowd or downward pressure during installation. In some cases, auguring may be (temporarily) necessary in order to grind through an obstruction.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: Submit design calculations signed and sealed by the qualified professional engineer licensed in Georgia, responsible for their preparation for the helical piles and brackets intended for use on the project.
1. Helical pile and helical anchor product identification number(s) and designation(s).
 2. Maximum allowable mechanical compression and tensile strength of the helical piles
 3. Number of helical piles and respective design allowable capacities from the drawings.
 4. Planned installation depth and the number of lead and extension sections.
 5. Preliminary helical configuration (number and diameter of helical bearing plates).
 6. Manufacturer's recommended capacity to installation torque ratio.
 7. Minimum final installation torque(s).
 8. Product identification numbers and designations for all bracket assemblies and number and size of connection bolts or concrete reinforcing steel detail.
 9. Corrosion protection coating on helical piles and bracket assemblies.
- C. Design Calculations: Submit design calculations signed and sealed by the qualified professional engineer licensed in Georgia, responsible for their preparation for the helical piles and brackets intended for use on the project.
1. Reduction in shaft dimension and strength by the sacrificial thickness anticipated based on corrosion loss over the design life for project soil conditions.
 2. Considerations for down-drag, buckling, and expansive soils (as appropriate).
 3. Minimum installation depth to reach bearing stratum and to achieve pullout capacity (if required).
 4. Soil bearing and pullout capacity.
 5. Lateral resistance of the shaft (if required).
 6. Estimated pile head movement at design loads.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and testing agency.
- B. Welding certificates.
- C. Mill Test Reports: For helical piles and helical anchors, steel castings and steel plate, signed by manufacturer.
- D. Pile-Installing Equipment Data: Include type, make, and calibration information.
- E. Load Test or Proof Load Test Reports: Submit within three days of completing each test.
- F. Pile-Installing Records: Submit within three days of installing each pile.
- G. Certified Piles Survey: Submit within seven days of pile installation completion.
- H. Field quality-control reports.
- I. Preconstruction Photographs: Photographs or video of existing conditions of adjacent construction. Submit before the Work begins.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
1. Installer's responsibility includes engaging a qualified professional engineer to prepare pile-installation records.

- B. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated and accredited by IAS or ILAC Mutual Recognition Arrangement as complying with ISO/IEC 17025.
- C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.7 PRE-CONSTRUCTION TESTING

- A. General: Pile tests are used to verify installed criteria and pile lengths and to confirm allowable load of piles.
 - 1. Determination of actual length of piles is based on results of static pile tests.
- B. Pile Tests: Arrange and perform the following pile tests:
 - 1. Axial Compression Load Test: ASTM D 1143.
 - 2. Axial Tension Static Load Test: ASTM D 3689.
 - 3. Lateral Load Test: ASTM D 3966.
- C. Equip each test pile with two telltale rods, according to ASTM D 1143/D 1143M, for measuring deformation during load test.
- D. Provide pile reaction frame, anchor piles, equipment, and instrumentation with enough reaction capacity to perform tests. Notify Architect at least 48 hours in advance of performing tests. On completion of testing, remove testing structure, anchor piles, equipment, and instrumentation.
 - 1. Allow a minimum of seven days to elapse after installing test piles before starting pile testing.
 - 2. Number of Test Piles: As indicated or per Geotechnical Engineer
- E. Drive test piles at locations indicated to the minimum penetration or driving resistance indicated. Use test piles identical to those required for Project, and drive with appropriate pile-driving equipment operating at rated driving energy to be used in driving permanent piles.
 - 1. Pile Design Load: As indicated.
- F. Approval Criteria: Allowable load shall be the load acting on the test pile when the lesser of the following criteria are met, divided by a factor of safety of 2:
 - 1. Net settlement, after deducting rebound, of not more than 0.01 inch/ton of test load.
 - 2. Total settlement exceeds the pile elastic compression by 0.15 inch, plus 1.0 percent of the tip diagonal dimension.
 - 3. A plunging failure or sharp break in the load settlement curve.
- G. Test Pile-Driving Records: Prepare driving records for each test pile, compiled and attested to by a qualified professional engineer. Include same data as required for driving records of permanent piles.
- H. Test piles that comply with requirements, including location tolerances, may be used on Project.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver piles to Project site in such quantities and at such times to ensure continuity of installation. Handle and store piles at Project site to prevent buckling or physical damage. Store helical piles, helical anchors, and bracket assemblies on wood pallets or supports to keep from contacting the ground.
 - 1. Painted Piles: Protect finish and touch up paint damage before installing piles.

1.9 FIELD CONDITIONS

- A. Protect structures, underground utilities, and other construction from damage caused by pile installation.
- B. Site Information: A geotechnical report has been prepared for this Project and is included elsewhere in the Project Manual for information only.
- C. Preconstruction Photographs: Inventory and record the condition of adjacent structures, underground utilities, and other construction. Document conditions that might be misconstrued as damage caused by pile driving.

PART 2 - PRODUCTS

2.1 Example

- A. The following specifications are provided as an example for the contractor. The final specification shall be established as part of the Contractors shop drawings for the boardwalk if the contractor chooses to use Helical Pier.

2.2 PILES AND BRACKETS

- A. Unless noted otherwise, it is the manufacturer's responsibility to select the appropriate size and type of helical piles, helical anchors, and brackets to support the design loads shown on the drawings. These specifications and the drawings provide minimum requirements to aid the manufacturer in making appropriate materials selections. The size and number of helical bearing plates must be such that the helical piles and helical anchors achieve the appropriate torque and capacity in the soils at the site within the minimum and maximum length requirements.
 - 1. Central Shaft: The central shaft shall consist of a high strength structural steel tube meeting the requirements of ASTM A513.
 - 2. Helical Bearing Plates: One or more helical bearing plates shall be affixed to the central shaft. Helical bearing plates shall be attached to central shafts via fillet welds continuous on top and bottom and around the leading edges. Helical bearing plates shall be cold pressed into a near perfect helical shape that when affixed to the central shaft are perpendicular with the central shaft, of uniform pitch, and such that the leading and trailing edges are within 3/8 inch of parallel. Average helical pitch shall be within plus or minus 1/4 inch of the thickness of the helical bearing plate plus 3 inches.
 - 3. Corrosion Protection: Depending on project requirements and soil corrosivity, helical piles, helical anchors, and brackets shall be bare steel, powder coated, or hotdip galvanized (per ASTM A123 or A153 as applicable).
 - 4. Shaft Connections: The helical pile and helical anchor shaft connections shall consist of an external sleeve connection or a welded connection. External sleeve connections shall be in-line, straight and rigid and shall have a maximum tolerable slack of 1/16-inch. Welded connections shall consist of a full penetration groove weld all-around the central shaft. Shaft connections shall have a flexural strength at least as great as the shaft itself.
 - 5. Bolts: Bolts and nuts used to join helical pile and helical anchor sections at the shaft connections shall be bare steel, epoxy coated, or zinc coated to match the corrosion protection used for the central shaft. All helical pile and helical anchor bolts shall be securely snug tightened.
 - 6. Plug Welds: Alternatively, external sleeve connections may be made using plug welds matching the diameter and number of bolt holes.

7. External sleeve: External sleeve helical pile and helical anchor shaft connections shall consist of a high strength structural steel tube outer sleeve meeting the requirements of ASTM A513. The outer sleeve shall be welded to the central shaft via a continuous fillet weld all-around. The fillet weld shall have a throat thickness equal to the external sleeve tube thickness.
 8. Couplings: Formed as integral part of the plain and helical extension material.
- B. Brackets: Helical piles shall be fitted with a manufactured bracket that facilitates connection to the structure. Brackets shall be rated for the design loads shown on the drawings. Brackets shall be affixed to the end of helical piles and helical anchors via bolts, plug welds, or continuous penetration welds meeting the requirements for shaft connections given previously in these specifications.

2.3 FABRICATION

- A. Fabricate and assemble piles in shop to greatest extent possible.
- B. Pile-Length Markings: Mark each pile with horizontal lines at 12-inch intervals; label the distance from pile tip at 60-inch intervals. Maintain markings on piles until installed.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Site Conditions:
 1. Do not start pile installation operations until earthwork fills have been completed or excavations have reached an elevation of 6 to 12 inches above bottom of footing or pile cap.
 2. Contractor shall locate all utilities and structures above and underground in the area of the Work. Contractor is responsible for protection of utilities and structures shown on the Drawings.
 3. Contractor shall review drawings and soil borings in the Contract Documents to determine subsurface conditions for sizing and installation of helical piles and helical anchors.
 4. If excavation is required for proper installation of helical piles and helical anchors, Contractor shall make safe excavations in accordance with OSHA standards. If necessary, excavations shall be designed by a registered design professional specializing in the design of excavations and shoring.

3.2 INSTALLATION EQUIPMENT

- A. Torque Motor: Helical piles and helical anchors should be installed with high torque, low RPM torque motors, which allow the helical plates to advance with minimal soil disturbance. The torque motor shall be hydraulic power driven with clockwise and counterclockwise rotation capability. The torque motor shall be adjustable with respect to revolutions per minute during installation. Percussion drilling equipment shall not be permitted. The torque motor shall have torque capacity equal to or greater than the minimum final installation torque required for the project. The connection between the torque motor and the installation rig shall have no more than two pivot hinges oriented 90 degrees from each other.

- B. Installation Equipment: The installation equipment shall be capable of applying adequate crowd and torque simultaneously to ensure normal advancement of the helical piles. The equipment shall be capable of maintaining proper alignment and position.
- C. Drive Tool: The connection between the torque motor and helical pile and helical anchor shall be in-line, straight, and rigid, and shall consist of a hexagonal, square, or round Kelly bar adapter and helical shaft socket. To ensure proper fit, the drive tool shall be manufactured by the helical pile manufacturer and used in accordance with the manufacturer's installation instructions.
- D. Connection Pins: The central shaft of the helical pile or helical anchor shall be attached to the drive tool by ASME SAE Grade 8 smooth tapered pins matching the number and diameter of the specified shaft connection bolts. The connection pins should be maintained in good condition and safe to operate at all times. The pins should be regularly inspected for wear and deformation. Pins should be replaced with identical pins when worn or damaged.
- E. Torque Indicator: A torque indicator shall be used to measure installation torque during installation. The torque indicator can be an integral part of the installation equipment or externally mounted in-line with the installation tooling. The torque indicator shall be capable of torque measurements with a sensitivity of 500 ft-lb or less. Torque indicators shall have been calibrated within 1-year prior to start of Work. Torque indicators that are an integral part of the installation equipment shall be calibrated on-site. Torque indicators that are mounted in-line with the installation tooling shall be calibrated either on-site or at an appropriately equipped test facility. Indicators that measure torque as a function of hydraulic pressure shall be re-calibrated following any maintenance performed on the torque motor. Torque indicators shall be re-calibrated if, in the opinion of the Engineer, reasonable doubt exists as to the accuracy of the torque measurements.

3.3 INSTALLATION PROCEDURES

- A. General: Constant axial force (crowd) shall be applied while rotating helical piles and helical anchors into the ground. The crowd applied shall be sufficient to ensure that the helical pile and helical anchor advances into the ground a distance equal to at least 80% of the blade pitch per revolution during normal advancement.
- B. General: Connect the lead section to the torque motor using the drive tool and connection pins. Position and align the lead section at the location and to the inclination shown on the drawings and crowd the pilot point into the soil. Advance the lead section and continue to add extension sections to achieve the termination criteria. All sections shall be advanced into the soil in a smooth, continuous manner at a rate of rotation between 10 and 40 revolutions per minute. Snug tight all coupling bolts.
- C. The manufacturer's torsional strength rating of the helical pile or helical anchor shall not be exceeded during installation.
- D. Bolt hole elongation due to torsion of the shaft of a helical anchor at the drive tool shall be limited to ¼ inch. Helical anchors with bolt hole damage exceeding this criterion shall be uninstalled, removed, and discarded.
- E. When the termination criteria of a helical pile or helical anchor is obtained, the Contractor shall adjust the elevation of the top end of the shaft to the elevation shown on the drawings or as required. This adjustment may consist of cutting off the top of the shaft and drilling new holes to facilitate installation of brackets to the orientation shown on the drawings. Alternatively, installation may continue until the final elevation and orientation of the pre-drilled bolt holes are

in alignment. Contractor shall not reverse the direction of torque and back-out the helical pile or helical anchor to obtain the final elevation.

- F. The Contractor shall install brackets in accordance with helical pile manufacturer's details or as shown on the drawings.
- G. All helical pile components including the shaft and bracket shall be isolated from making a direct electrical contact with any concrete reinforcing bars or other non-galvanized metal objects since these contacts may alter corrosion rates.
- H. Abandon and cut off rejected piles as directed by Architect. Leave rejected piles in place and install new piles in locations as directed by Architect.
- I. Certified Piles Survey: Engage a land surveyor to prepare a piles survey showing final location of piles in relation to the property survey and existing benchmarks.
 - 1. Notify Architect when deviations from locations exceed allowable tolerances.
- J. The Contractor shall provide the Engineer and Owner copies of installation records within 48 hours after each installation is completed. These installation records shall include, but are not limited to, the following information:
 - 1. Name of project and Contractor
 - 2. Name of Contractor's supervisor during installation
 - 3. Date and time of installation
 - 4. Name and model of installation equipment
 - 5. Type of torque indicator used
 - 6. Location of helical pile or helical anchor by grid location, diagram, or assigned identification number
 - 7. Type and configuration of lead section with length of shaft and number and size of helical bearing plates
 - 8. Type and configuration of Extension Sections with length and number and size of helical bearing plates, if any
 - 9. Installation duration and observations
 - 10. Total length installed
 - 11. Final elevation of top of shaft and cut-off length, if any
 - 12. Final plumbness or inclination of shaft
 - 13. Installation torque at minimum three-foot depth intervals
 - 14. Final installation torque
 - 15. Comments pertaining to interruptions, obstructions, or other relevant information
 - 16. Verified axial load capacity

3.4 ALLOWABLE TOLERANCES

- A. Helical piles shall be installed as close to the specified installation and orientation angles as possible. Tolerance for departure from installation and vertical orientation angles shall be +/- 2 degrees.
- B. Centerline of helical piles shall be installed not more than 3 inches from indicated plan location.
- C. Helical piles and bracket assemblies shall be installed at the locations and to the elevations shown on the plans. Tolerances for bracket assembly placement shall be +/- 1 inch in both directions perpendicular to the shaft and +/- 1/4 inch in a direction parallel with the shaft unless otherwise specified.

3.5 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
 - 1. Pile foundations.
- B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- C. Tests and Inspections:
 - 1. Helical Pile Compression Tests:
 - a. Contractor shall perform the number of compression tests shown on the Drawings, if any.
 - b. Compression tests shall be performed following the “quick test” procedure described in ASTM D1143 specifications.
 - c. Load tests shall be observed and documented by an Engineer.
 - d. Unless otherwise shown on the drawings, the maximum test load shall be 200% of the allowable load shown on the drawings.
 - e. The locations of helical piles to be tested shall be determined by the Contractor, unless noted on the drawings.
 - f. Installation methods, procedures, equipment, products, and final installation torque shall be identical to the production helical piles to the extent practical except where otherwise approved by the Owner or Engineer.
 - g. A load test shall be deemed acceptable provided the maximum test load is applied without helical pile failure and the deflection of the pile head at the design load is less than 1-inch unless noted otherwise on the drawings. Failure is defined when continuous jacking is required to maintain the load.
 - 2. Helical Pile Lateral Load Tests (if required):
 - a. Contractor shall perform the number of lateral load tests shown on the drawings, if any.
 - b. Lateral load tests shall be performed following the “free head” procedure described in ASTM D3966 specifications.
 - c. Lateral load tests shall be observed and documented by an Engineer.
 - d. Unless otherwise shown on the drawings, the maximum test load shall be 200% of the allowable lateral load shown on the drawings.
 - e. The locations of test helical piles shall be determined by the Contractor, unless shown on the drawings.
 - f. Installation methods, procedures, equipment, products, and final installation torque shall be identical to the production piles to the extent practical except where otherwise approved by the Owner or Engineer.
 - g. A lateral load test shall be deemed acceptable provided the lateral deflection of the pile head measured at the ground surface at the maximum test load is equal to or less than 1-inch.
 - 3. Weld Testing: In addition to visual inspection, welds shall be tested and inspected according to AWS D1.1/D1.1M and inspection procedures listed below, at testing agency's option. Correct deficiencies in Work that test reports and inspections indicate do not comply with the Contract Documents.
 - a. Liquid Penetrant Inspection: ASTM E 165.
 - b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration are not accepted.
 - c. Radiographic Inspection: ASTM E 94, minimum quality level "2-2T."

- d. Ultrasonic Inspection: ASTM E 164.
 - D. Helical piles will be considered defective if they do not pass tests and inspections.
 - E. Prepare test and inspection reports.
- 3.6 DISPOSAL AND CLEANUP:**
- A. Remove withdrawn piles and cutoff sections of piles from site, and legally dispose of them off Owner's property.
 - B. Remove all debris and refuse caused by the construction process and fine grade the areas disturbed back to as close to natural appearance as possible.

END OF SECTION 05663

SECTION 06100

ROUGH CARPENTRY

1.1 GENERAL

- A. Submittals: Submit the following:
1. Contractor shall remove a treatment tag from each type of lumber delivered to the site and provide it to the Landscape Architect and Owner with a copy of the order manifest and delivery date. Include in daily reports and provide at regular on-site project meetings.
 2. Contractor shall provide material certificates for dimension lumber specified to comply with minimum allowable unit stresses.
 3. Wood treatment data, including chemical treatment manufacturer's instructions for handling, storing, installing, and finishing treated materials.
 4. Research or evaluation reports of the model code organization acceptable to authorities having jurisdiction that evidence code compliance of engineered wood products, foam-plastic sheathing, air-infiltration barriers, metal framing anchors, power-driven fasteners, and fire-retardant-treated wood.

1.2 PRODUCTS

- A. Lumber, General: Comply with DOC PS 20 and with applicable grading rules of inspection agencies certified by the American Lumber Standards Committee's (ALSC) Board of Review. Provide dressed lumber, S4S, with each piece factory marked with grade stamp of inspection agency.
1. For exposed lumber, furnish pieces with grade stamps applied to ends or back of each piece, or omit grade stamps and provide grade-compliance certificates issued by inspection agency.
 2. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.
 3. Provide lumber with 15 percent maximum moisture content at time of dressing for 2-inch nominal thickness or less, unless otherwise indicated.
 4. Wood piles shall be Marine Grade for constant contact with water.
- B. B. Wood-Preservative-Treated Materials: Comply with applicable requirements of AWWA C2 (lumber). Mark each treated item with the Quality Mark Requirements of an inspection agency approved by ALSC's Board of Review.

All permeant wood products making contact with the ground or exposed to the natural elements above the ground shall be **GROUND CONTACT** treated wood. No exceptions shall be made. Every piece of lumber shall have a treatment tag attached to one end.

WARNING NOTE

NO ABOVE GROUND CONTACT LUMBER SHALL BE USED ON THIS PROJECT, ONLY GROUND CONTACT, BELOW GROUND CONTACT OR MARINE GRADE MATERIALS WILL BE ACCEPTED ON THIS PROJECT

1. Ground Contact Lumber: Pressure treat all above and ground contact items with waterborne preservatives to a minimum retention of 0.40 lb/cu. ft. or approved equal. After treatment, kiln-dry lumber and to a maximum moisture content of 19 and 15 percent, respectively. (*Equal to or better than LP-22 treatment*)
 2. Water Contact: Lumber, piles or posts in constant contact with fresh or salt water shall be **Marine Grade** treatment.
 3. Complete fabrication of treated items before treatment, where possible. If cut after treatment, apply field treatment complying with AWWPA M4 to cut surfaces.
 4. Exterior Type: Use for exterior locations and where indicated.
 5. Inspect each piece of treated lumber after delivery and discard damaged, defective or untagged pieces.
- C. Dimension Lumber: Provide dimension lumber of grades indicated according to the ALSC National Grading Rule (NGR) provisions of the inspection agency indicated.
1. Non-Load-Bearing Interior Partitions: Provide Standard, Stud, or No. 3 grade and any of the following species:
 - a. Species: Mixed southern pine; SPIB.
 2. Framing Other than Non-Load-Bearing Partitions: Provide Construction or No. 2 grade and any of the following species:
 - a. Species: Southern pine; SPIB.
 3. Exposed Framing: Provide material hand-selected from lumber of species and grade indicated below for uniformity of appearance and freedom from characteristics and would impair finish appearance.
 - a. Species and Grade: Southern pine, Select Structural; SPIB.
- E. Miscellaneous Lumber: Provide No. 3 or Standard grade lumber of any species for support or attachment of other construction, including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, and similar members.
- F. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that evidence compliance with building code in effect for Project. Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
1. Laminated-Veneer Lumber: Lumber manufactured by laminating wood veneers in a continuous press using an exterior-type adhesive complying with ASTM D 2559 to produce members with grain of veneers parallel to their lengths and complying with the following requirements
 - a. Extreme Fiber Stress in Bending: 2500 psi (17 MPa) for 12-inch nominal- (286-mm actual-) depth members.

- b. Modulus of Elasticity: 2,000,000 psi (13 800 MPa).
2. Parallel-Strand Lumber: Lumber manufactured by laying up wood strands using an exterior-type adhesive complying with ASTM D 2559, and cured under pressure to produce members with grain of strands parallel to their lengths and complying with the following requirements:
 - a. Extreme Fiber Stress in Bending: 2900 psi (20 MPa) for 12-inch nominal- (286-mm actual-) depth members.
 - b. Modulus of Elasticity: 2,000,000 psi (13 800 MPa).
3. Prefabricated Wood I-Joists: Units manufactured by bonding stress- graded lumber flanges to wood-based structural-use panel webs with exterior-type adhesives complying with ASTM D 2559, to produce I- shaped joists complying with the following requirements:
 - a. Structural Capacities: Establish and monitor structural capacities according to ASTM D 5055.
- P. Fasteners: Size and type indicated. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of Type 304 stainless steel.
 1. Power-Driven Fasteners: CABO NER-272.
 2. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
 3. All hardware shall be hot dipped galvanized.
 4. All nails shall be hot dipped galvanized ring shank deck nails
 5. All deck screws shall be hot dipped galvanized for exterior use.
- G. Simpson Post Connector: OWT Ornamental Wood Ties, (4x4 FPBIW) 51789 Faux Post Base.
- H. Concrete footer: ‘*Sakcrete*’ filled in hole with post.

1.3 EXECUTION

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.
- B. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.
- C. All decks nails or screws shall be counter sunk.

END OF SECTION 06100

SECTION 06105

MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Framing with dimension lumber for abutment and other concrete forming

B. Related Requirements:

1.2 DEFINITIONS

- A. Refer to Section 06100 for lumber treatment requirements.
- B. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.
- C. Dimension Lumber: Lumber of 2 inches nominal or greater size but less than 5 inches nominal size in least dimension.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.

1.4 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For the following, from ICC-ES:

1. Preservative-treated wood.
2. Power-driven fasteners.
3. Post-installed anchors.
4. Metal framing anchors.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency

certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. Dress lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process: AWWPA U1; Use Category UC2 and Use Category UC4a for items in contact with ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat all miscellaneous carpentry unless otherwise indicated.

2.3 MISCELLANEOUS LUMBER

A. Dimension Lumber Items: Construction or No. 2 grade lumber of any of the following species:

1. Southern Yellow Pine.

B. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.

B. Screws for Fastening to Framing: ASTM C1002, length as recommended by screw manufacturer for material being fastened.

2.5 METAL FRAMING ANCHORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Simpson Strong-Tie Co., Inc or comparable equal.

B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A653/A653M, G60 coating designation.

1. Use for interior locations unless otherwise indicated.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels.
- B. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- C. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- D. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 2. ICC-ES evaluation report for fastener.

3.2 WOOD BLOCKING AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

END OF SECTION 06105

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Salvaging nonhazardous demolition and construction waste.
 - 2. Recycling nonhazardous demolition and construction waste.
 - 3. Disposing of nonhazardous demolition and construction waste
 - 4. Shredding on site vegetative waste and broadcasting over the site..
- B. Related Requirements:
 - 1. Section 02060 "Demolition" for disposition of waste resulting from partial demolition of structures, and site improvements, and for disposition of hazardous waste.
 - 2. Section 02100 "Site Preparation" for disposition of waste resulting from site clearing and removal of above and below grade improvements.

1.2 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 50 percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials, including but not limited to the following:
 - 1. Demolition Waste:
 - a. Concrete paving.
 - b. Concrete reinforcing steel.
 - c. Concrete masonry units.
 - d. Chain link fence.
 - e. Wood joists.
 - f. Rough hardware.

- g. Supports and hangers
 - h. Electrical conduit.
 - i. Electrical devices.
2. Construction Waste:
- a. Lumber.
 - b. Wood sheet materials.
 - c. Metals.
 - d. Piping.
 - e. Electrical conduit.
 - f. Packaging: Regardless of salvage/recycle goal indicated in "General" Paragraph above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
 - 1) Paper.
 - 2) Cardboard.
 - 3) Boxes.
 - 4) Plastic sheet and film.
 - 5) Polystyrene packaging.
 - 6) Wood crates.
 - 7) Plastic pails.

1.4 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use Form CWM-7 for construction waste and Form CWM-8 for demolition waste. Include the following information:
 - 1. Material category.
 - 2. Generation point of waste.
 - 3. Total quantity of waste in tons.
 - 4. Quantity of waste salvaged, both estimated and actual in tons.
 - 5. Quantity of waste recycled, both estimated and actual in tons.
 - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
 - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- G. Qualification Data: For waste management coordinator and refrigerant recovery technician.

- H. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.5 QUALITY ASSURANCE

- A. Waste Management Coordinator Qualifications: Experienced firm, with a record of successful waste management coordination of projects with similar requirements, that employs a LEED-Accredited Professional, certified by the USGBC, as waste management coordinator.
- B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- C. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Waste Management Conference: Conduct conference at Project site. Review methods and procedures related to waste management including, but not limited to, the following:
1. Review and discuss waste management plan including responsibilities of waste management coordinator.
 2. Review requirements for documenting quantities of each type of waste and its disposition.
 3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
 4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 5. Review waste management requirements for each trade.

1.6 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight or volume but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing and construction waste generated by the Work. Use Form CWM-1 for construction waste and Form CWM-2 for demolition waste. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Use Form CWM-3 for construction waste and Form CWM-4 for demolition waste. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
 4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.

5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.
- D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Use Form CWM-5 for construction waste and Form CWM-6 for demolition waste. Include the following:
1. Total quantity of waste.
 2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
 3. Total cost of disposal (with no waste management).
 4. Revenue from salvaged materials.
 5. Revenue from recycled materials.
 6. Savings in hauling and tipping fees by donating materials.
 7. Savings in hauling and tipping fees that are avoided.
 8. Handling and transportation costs. Include cost of collection containers for each type of waste.
 9. Net additional cost or net savings from waste management plan.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
1. Comply with operation, termination, and removal requirements in Section 015000 "Temporary Facilities and Controls."
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
1. Distribute waste management plan to everyone concerned within three days of submittal return.
 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.

2. Comply with Section 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.
- E. Waste Management in Historic Zones or Areas: Hauling equipment and other materials shall be of sizes that clear surfaces within historic spaces, areas, rooms, and openings, by 12 inches or more.

3.2 SALVAGING DEMOLITION WASTE

- A. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 3. Store items in a secure area until installation.
 4. Protect items from damage during transport and storage.
 5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.
- B. Salvaged Items for Sale and Donation: Not permitted on Project site.
- C. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area designated by Owner.
 5. Protect items from damage during transport and storage.
- D. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.
- E. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.
- F. Plumbing Fixtures: Separate by type and size.
- G. Lighting Fixtures: Separate lamps by type and protect from breakage.
- H. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

3.3 RECYCLING WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

- A. Asphalt Paving: Break up and transport paving to asphalt-recycling facility.
- B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 1. Pulverize concrete to maximum 4-inch size.
- C. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.
- D. Metals: Separate metals by type.
 1. Structural Steel: Stack members according to size, type of member, and length.
 2. Remove and dispose of bolts, nuts, washers, and other rough hardware.
- E. Metal Suspension System: Separate metal members including trim, and other metals from acoustical panels and tile and sort with other metals.
- F. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.
- G. Conduit: Reduce conduit to straight lengths and store by type and size.

3.5 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 2. Polystyrene Packaging: Separate and bag materials.
 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Wood Materials:
 1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.

2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
 - a. Comply with requirements in Section 329300 "Plants" for use of clean sawdust as organic mulch.

3.6 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. No unused treated lumber or refuse shall be burned or left on site.
- B. Burning: Do not burn waste materials.
- C. Burning: Burning of waste materials is permitted only at designated areas on Owner's property, provided required permits are obtained. Provide full-time monitoring for burning materials until fires are extinguished.
- D. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 017419



August 7, 2020

Mr. Mack Cain
Clark Patterson Lee
3011 Sutton Gate Drive, Suite 130
Suwanee, GA 30024

VIA E-MAIL

**Subject: Letter of No Permit Required
Murphy Candler Park – North Trail
Brookhaven, Georgia
Corblu Project No. 02-051019**

Dear Mr. Cain:

In response to your recent request, Corblu Ecology Group, LLC (Corblu) is pleased to submit this evaluation of the proposed recreational trails to be located within Murphy Candler Park in Brookhaven, Georgia, with specific reference to the North Trail boardwalk proposed to cross the northern portion of Murphy Candler Lake.

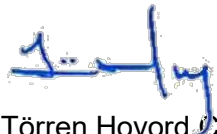
Based on our review of the boardwalk construction methods (i.e., hand-clearing of forested wetlands), design (i.e., elevated on support pilings), and site visits to the subject site, we believe the project does not require authorization from the U.S. Army Corps of Engineers (USACE). The boardwalk will be constructed using driven pilings, which do not result in a placement of fill in waters of the U.S. Based on regulation, and as defined in 33 CFR Part 323.2(e), "*fill material means material placed in waters of the United States where the material has the effect of: (i) Replacing any portion of a water of the United States with dry land; or (ii) Changing the bottom elevation of any portion of a water of the United States*". Further as specified in 33 CFR Part 323.3(c)(2), "*placement of pilings for linear projects, such as bridges, elevated walkways and powerline structures, generally does not have the effect of a discharge of fill material*". Therefore, driven piles do not replace waters with dry land, nor do they change the bottom elevation of the jurisdictional water, and no USACE authorization is required.

Additionally, as proposed, the North Trail boardwalk does not require authorization from the Georgia Environmental Protection Division (EPD). Recreational trails are treated the same as a roadway crossing that does not require a buffer variance [i.e., exempt; see EPD Erosion and Sedimentation Regulations 391-3-7.05(1)(b)].

Corblu appreciates this opportunity to assist you with this project. Please contact the undersigned at (770) 591-9990 if you have any questions regarding this letter.

Sincerely,

CORBLU ECOLOGY GROUP, LLC



Törren Hoyord CE, WPIT
Project Scientist



Richard W. Whiteside, PhD, CWB, CSE
President



EARTHWORK

Matrix Report # 1

Project Name: Murphy Candler Park - Wetlands Boardwalk
(Geotechnical)

Date: 7/24/2020 **Day:** Friday

Project No: 302455

Weather: Partly Cloudy

Representative: Ashraf Abukhalaf, EIT

Temperature: 70 - 90°

General Contractor: NA

Evaluation Type: Earthwork

Rainfall Amount: 0 inch

Location: Limited Geotechnical Exploration at Murphey Candler Wetland Boardwalk

Matrix Engineering Group, Inc. has completed the subsurface exploration for the proposed Murphy Candler Boardwalk. The scope of work was to perform a total of ten (10) soil test borings at locations designated by the City as shown on the attached Figure 1. The test borings were drilled up to 5 feet Below Ground Surface (BGS) or auger refusal. The objective of this work was to determine the soil consistency, soil classification, and the groundwater depth in order to aid in the design of foundations support for the proposed boardwalk. It is our understanding that the design has not been finalized as of the time of writing this report.

The soil test borings were drilled utilizing the hand auger and performing penetrometer testing. The testing was conducted in general accordance with ASTM STP 399 (ref. Sowers, George and Hedges, Charles. "Dynamic Cone for Shallow In-Situ Penetration Testing," Vane Shear and Cone Penetration Resistance Testing of In-Situ Soils, ASTM STP 399, Am. Soc. Testing Mats., 1966, p29). The portable cone penetrometer device utilizes a 15-lb steel ring weight falling 20 inches on an E-rod slide device. The penetration test is performed through an augered hole 4 to 6 inches in diameter. After augering to the test depth, the penetrometer's cone point is seated 2 inches into the undisturbed bottom of the hole to ensure complete point embedment. The cone is further driven 1.75 inches using the ring weight hammer falling freely 20 inches. The number of blows are counted and recorded. The soil was classified at each depth in general accordance with the Visual-Manual Soil Description (ASTM D2488).

The test borings were designated as B1 to B10 as shown on the attached Figure 1. Two offsets were made at test location B1 and were designated as B1A and B1B due to shallow auger refusals. Test borings B6 and B7 were designated within the existing creek (wetlands). Water was flowing in the creek at the time of our exploration, therefore testing within the creek was not possible. The soil description and dynamic cone penetrometer test results are presented in the attached test boring logs.

Based on our site reconnaissance and the soil test borings, the following presents our findings:

1) At B1B and B10, located at the beginning and the end of proposed boardwalk, auger refusal was encountered at 16 inches and 48 inches, respectively due to the presence of rock fragments. Offset were taken at Boring B1. The fragments appear to be man-made fill placed to stabilize the existing paths. The soil test borings showed firm to very firm soils and appear to be satisfactory for support of pedestrian boardwalk structure.

2) At B2 through B5 and B8 through B9, soft and wet soils were encountered within the drilled depth of 5 feet below the existing surface. The encountered soils appear to be alluvium fine to coarse gray silty sand with some clays. The blow counts ranged between 0 and 4 blows per increment (bpi), but generally 1 to 2 bpi connoting very soft soils. Groundwater was encountered at each of the test borings ranging in depth between 1 foot to 2 feet BGS.

Test boring B9 was offset approximately 15 feet towards B10 and boring B3 was offset approximately 10 feet towards B4 due to unstable grounds and soft soil conditions which prevented proper testing.

Based on the soil test borings and our experience, we recommend that the design incorporates stabilization of the soft soils utilizing geotextile fabric, surge stone capped with Graded Aggregate Base (GAB) course to provide stable subgrades for the boardwalk. The extent and depth of the stabilization will depend on the field conditions at the time of

construction. Dewatering will be required during construction to allow for construction equipment access and to minimize land disturbance to the wetlands. The time of construction should be carefully planned and preferably in dry season where the groundwater elevations would naturally be at lower elevations allowing some of the soft soils to consolidate and potentially provide a more stable subgrade for construction operations.

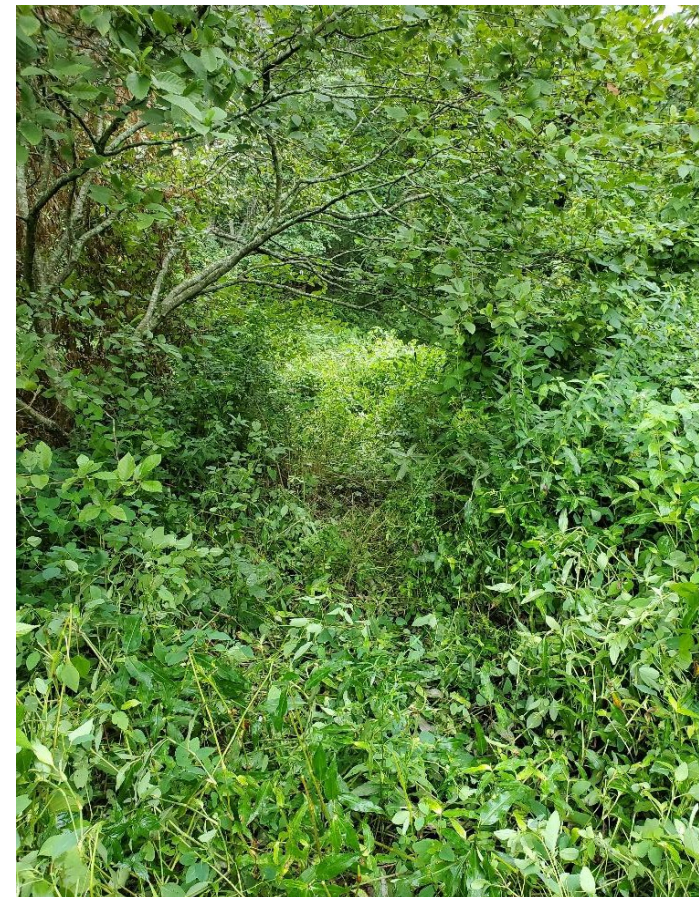
Based on the field conditions and our site reconnaissance, shallow foundations for the abutments will require stabilization to achieve a satisfactory bearing capacity. We recommend that the design consider deep foundations, such as driven piles or helical piles for the support of the abutments.

Ashraf Abukhalaf
Prepared By

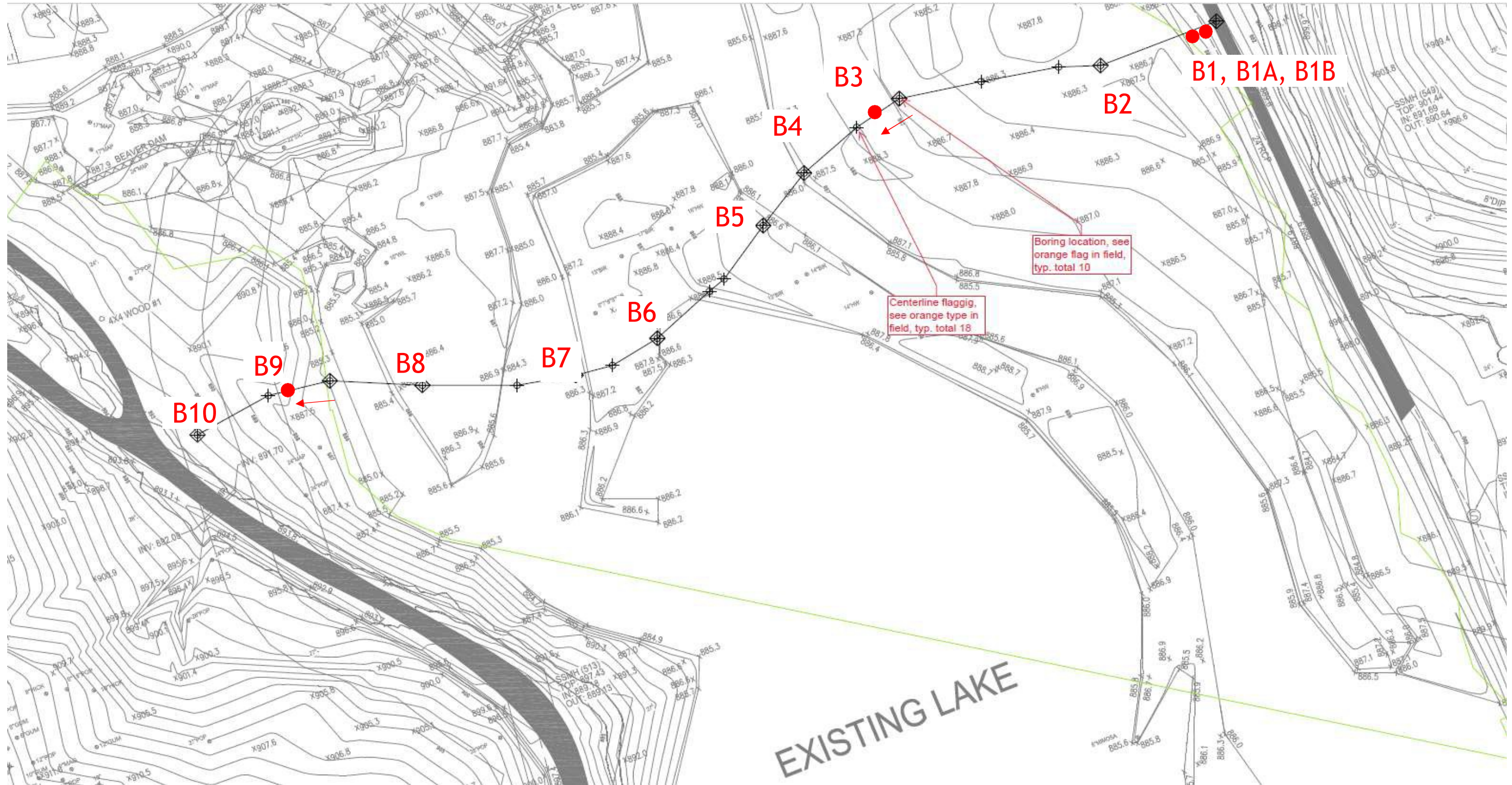
Sam Aljateem, P.E.

Reviewed By

Respectfully submitted
MATRIX ENGINEERING GROUP, INC.



Sample Photographs



Murphey Candler Park Wetlands Boardwalk Boring Log

07/24/2020

B1

Depth (Inches)	Soil Description	Blow Count
0	Approximately 4 inches of Topsoil	-
6	Light Brown Silty Sand, with hairline roots, and rock fragments	15+
10	Auger Refusal	-

B1A

Depth (Inches)	Soil Description	Blow Count
0	Pine straw and approximately 2 inches of Topsoil	-
2	Light Brown Silty Sand, with rock fragments	15+
10	Auger Refusal	-

B1B

Depth (Inches)	Soil Description	Blow Count
0	Pine straw and approximately 4 inches of Topsoil	-
4	Light Brown Silty Sand	6
12	Light Brown Silty Sand, with rock fragments	13
16	Auger Refusal	-

B2

Depth (Inches)	Soil Description	Blow Count
0	Approximately 8 inches of Topsoil	-
12	Alluvium - Grayish Brown, Micaceous, Fine Silty Sand, with roots.	1
24	GROUND WATER – Gray, Micaceous, Fine Silty Sand	1
36	Alluvium - Gray, Micaceous, Medium to Course Sand.	2
48	Same	0
60	Same	1

B3

Depth (Inches)	Soil Description	Blow Count
0	Approximately 6 inches of Topsoil	-
6	Light Brown, Silty Clay, with roots	-
12	Same	4
24	GROUND WATER – Alluvium Gray, Micaceous, Fine Silty Sand	2
36	Alluvium - Gray, Micaceous, Medium to Course Sand	1
48	Same	0
60	Same	1

B4

Depth (Inches)	Soil Description	Blow Count
0	Approximately 6 inches of Topsoil	-
12	Alluvium - Gray, Micaceous, Medium to Course Sand, with hairline roots	4
24	GROUND WATER - Same with occasional wood/root pieces.	2
36	Alluvium - Gray, Micaceous, Medium to Course Sand	0
48	Same	0
60	Same	1

B5

Depth (Inches)	Soil Description	Blow Count
0	Approximately 6 inches of Topsoil	-
12	Alluvium - Gray, Micaceous, Medium to Course Sand, with hairline roots	3
24	GROUND WATER - Same	1
36	Alluvium - Gray, Micaceous, Medium to Course Sand	1
48	Same	0
60	Same	1

B8

Depth (Inches)	Soil Description	Blow Count
0	Approximately 6 inches of Topsoil	-
12	GROUND WATER - Alluvium - Gray, Micaceous, Medium to Course Sand, with hairline roots	1
24	Alluvium - Gray, Micaceous, Medium to Course Sand	1
36	Same	0
48	Same	0
60	Same	1

B9

Depth (Inches)	Soil Description	Blow Count
0	Approximately 5 inches of Topsoil	-
8	Light Brown, Clayey Silt, with roots	8
24	Light Brown, Clayey Silt	0
30	GROUND WATER – Grayish Brown, Clayey Silt	1
48	Same	3
60	Same	4

B10

Depth (Inches)	Soil Description	Blow Count
0	Approximately 4 inches of Topsoil	-
12	Light Brown, Silty Sand, with roots	15+
24	Light Brown, Silty Sand, with occasional gravel	15+
36	Same	15+
48	Auger Refusal	15+

- Indicates no dynamic cone penetrometer test was performed at this elevation.



City Building Permit – Land Disturbance Permit (LDP):

Permit Application Process for City of Brookhaven.

Construction Documents have to be submitted through the Project Portal. If you haven't set up an account you will need to log in and set one up as defined below. The link can be found [here](#). After your account is approved you will be able to upload the plans. If you have any issues you can come by the office and the Permit Techs can walk you through the submittal, or you can contact Linda Abaray. Cell 678-274-2574 Off. 404-637-0536, Linda.Abaray@BrookhavenGA.gov.

All permit applications with the City of Brookhaven are electronic through the 'Project Portal'.

The Project Portal can be accessed by the following link
<https://cityworks.brookhavenga.gov/ProjectPortal>.

If the contractor is not registered with the City of Brookhaven, a copy of their 2020 business license, Contractor State License and driver's license can be sent via email to Vandetta Clark, vandetta.clark@brookhavenga.gov or permits@brookhavenga.gov for registration.

To get started:

- Click link
- Create a Username and Password (*Create Account*)
- Receive Approval Notification via Email.
- Login in to apply for a permit
- Create a New Application

Attached are step-by-step instructions on how to help navigate through the system for an online application submittal.

Also, through the Project Portal you will have the capability to make payment and print your permit and receive a receipt of payment.

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If you have further questions or need assistance applying online, please feel free to contact the City of Brookhaven Development Services office or Vandetta Clark – Permit Technician.

Project Portal for Development Services: <https://cityworks.brookhavenga.gov/ProjectPortal>
Permit Counter Hours: 7:30 a.m. to 4:30 p.m.



Linda Abaray
 Deputy Director of Community Development
 City of Brookhaven
 678-274-2574 | 404-637-0536
Linda.Abaray@BrookhavenGA.gov
www.BrookhavenGA.gov
 4362 Peachtree Rd. | Brookhaven, GA | 30319



Brookhaven Alert

Stay in the know! Sign up for **BROOKHAVEN ALERT**, a free service to get notifications from state and local authorities like weather, traffic and other emergencies. Sign up now at www.BrookhavenGA.gov/BrookhavenAlert or download the Smart911 app.

Get Connected with Brookhaven with **Brookhaven Connect**, a free app that allows users to communicate non-emergency issues, like potholes, code enforcement or other issues. **Brookhaven Connect** is available for [iPhone](#), [Android](#), and [Windows](#) phones or at [CitySourced](#) on other devices. More info at: <http://ow.ly/tkaE30kb9zv> Get it now!

No promise or warranty is made by the City of Brookhaven with respect to any information provided by these services. They are for informational purposes only and no service, response, or other performance by the City of Brookhaven is made or implied.

Project Portal for Development Services: <https://cityworks.brookhavenga.gov/ProjectPortal>
Permit Counter Hours: 7:30 a.m. to 4:30 p.m.



City Building Permit - Commercial New Construction:

Permit Application Process for City of Brookhaven.

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If the contractor is not registered with the City of Brookhaven, a copy of their 2020 business license, Contractor State License and driver's license can be sent via email to Vandetta Clark, vandetta.clark@brookhavenga.gov or permits@brookhavenga.gov for registration.

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Vandetta Clark

Permit Technician
City of Brookhaven

 404-637-0572

Vandetta.Clark@BrookhavenGA.gov

www.BrookhavenGA.gov

4362 Peachtree Rd. | Brookhaven, GA | 30319



Project Portal for Development Services: <https://cityworks.brookhavenga.gov/ProjectPortal>
Permit Counter Hours: 7:30 a.m. to 4:30 p.m.

COMMERCIAL NEW CONSTRUCTION (includes Multi-Family)

- Building Permit Application – Completed
 - Copy of State of Georgia Contractors License
 - Copy of Current Business License
 - Copy of valid Driver’s License
- Construction Drawings (Sealed When Required) – 3 Sets
 - Structural drawings with MEPs
 - COMcheck completed
- Site plan – 3 Sets
 - See Planning & Zoning requirements and Site Plan checklist
 - See Engineering / Stormwater / Erosion & Sediment Control Checklist for Building Permit
 - See Tree Preservation and Replacement Plan Checklist
- DeKalb County Watershed approval (when applicable) may be required after Fire Marshal review
- DeKalb County Health Department approval (when applicable)

COMMERCIAL REQUIREMENTS – NEW CONSTRUCTION

- Site plan must be drawn to scale and provide the following:
 - Provide zoning district on plans
 - All applicable setbacks
 - All applicable zoning buffers, easements and landscape strips shall be labeled on plans
 - Note the locations of streams, and the associated state and city stream buffers, both on the property and adjacent to the property. If no such streams and/or stream buffers exist, note their absence on the plans.
 - Proposed building footprint and parking shall be provided on plans
 - Provide parking calculations as determined by proposed land use, on plans
 - Submit building elevations - Typically required if conditioned to specific architectural elevations through a rezoning process or is located in an overlay district
 - Submit notice of variance approval, if applicable



Stay in the know! Sign up for **BROOKHAVEN ALERT**, a free service to get notifications from state and local authorities like weather, traffic and other emergencies. Sign up now at www.BrookhavenGA.gov/BrookhavenAlert or download the Smart911 app.

Get Connected with Brookhaven with **Brookhaven Connect**, a free app that allows users to communicate non-emergency issues, like potholes, code enforcement or other issues. **Brookhaven Connect** is available for [iPhone](#), [Android](#), and [Windows](#) phones or at [CitySourced](#) on other devices. More info at: <http://ow.ly/tkaE30kb9zv> Get it now!

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Permit Counter Hours: 7:30 a.m. to 4:30 p.m.

CITYWORKS INSTRUCTIONS

To Upload Plans

After completing your application, the portal will automatically open the plan review submittal window. Please allow pop-ups for this window to open. To manually access plan review, please log in to the portal and select **Review my Permits/Cases**, then **Existing Permits/Cases**. Select your permit (**you will know it is selected when it is highlighted Grey**) and click **View Permit Info**. In that page, click the blue button that says **Open Plan Review**. A new window will open. Click **Browse**, select the file from wherever it is on your computer and **Open**. Click **Upload** and once all documents are in, click **Submit for Plan Review**. Please let me know if you have any questions or issues.

To View Comments & Redlines

To view your comments, please log in to your portal account. Select **Review Permits/Cases**, then **Existing Permits/Cases**. Select the desired permit (**you will know it is selected when the whole line is Grey**) and click **View Permit Info**. In that window, click the blue button that says **Open Plan Review**. There will be 4 tabs at the top, select the one that says **Review Documents**. There you will find your comment letter and redlined plans. Let me know if you have any questions or issues.

To Make Payment

After log-in, the “**WELCOME, (Name)**” screen will open. In the middle of the screen 5 options are available. Below Request Inspection, **select** the 5th option “**Make a Payment**”. Follow the prompt to **Pay Fees by Permit Number** or to **Pay fees by Location**. **Search**. Enter card information. Submit Payment. **(There is a payment limit of \$5,000 on permits that exceed this amount.)**

To Print Permit/Payment Receipt

To print your permit, please log in to the portal and select **Review Permits/Cases**, then **Existing Permits/Cases**. Select the desired permit (**you will know it is selected when the whole line is grey**) and click **View Permit Info**. There will be a blue button that says **Print Permit**. The **Print Payment Receipt** button should be right next to it.

To Access Approved Plans

To access your approved & stamped plans, please log in to your portal account. Select **Review Permits/Cases**, then **Existing Permits/Cases**. Select the desired permit (**you will know it is selected when the whole line is grey**) and click **View Permit Info**. In that window, click the blue button that says **Open Plan Review**. There will be 4 tabs at the top, select the one that says **Approved Plan Documents**. There you will find your approved plan set and any related reference documents. Click the icon that looks like a piece of paper with a downwards arrow to download your plans. Let me know if you have any questions or issues.

To Request an Inspection

To request an inspection, log in to the portal and select **Request Inspections**, then **Request an Inspection**. Select desired inspection (you will know it is selected when the whole line is blue) and click **Next**. Complete date and contact fields and click **Schedule**. **If your request is received by 4 P.M., we can be out the next business day.**



Contractor Registration

CONTACT INFORMATION

Business Name:			
Email Address:			
Address:		Suite:	
City:			
State:		Zip:	
Office Phone:		Cell Phone:	

BUSINESS LICENSE INFORMATION

Business License Number		Exp.	
Jurisdiction			

STATE LICENSE INFORMATION

Name on State Company/Individual License			
State License Number		Exp.	
Name of Qualifying Agent			
Qualifying Agent License Number		Exp.	
Authorized Permit Agent			

OPEN PERMITS – include subcontractor trade permits related to building permits

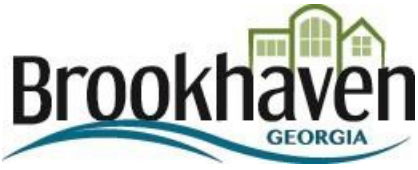
Permit Number	Site Address

NOTICE:

- Contractors must provide current license information, which will be verified prior to account approval.
- State law requires that building and trade permits be issued only to contractors holding current required state licenses or to an Authorized Permit Agent.
- Contractor is responsible for providing updated license information when license is renewed.
- The contractor to whom the permit is issued is responsible for the project.
- A request for change in contractor must be submitted to the Building Official in writing stating reason, and a fee paid, before the permit will be re-issued to a new contractor.

Signature _____ Date _____

Email completed form with copies of licenses to permits@brookhavenga.gov.



AUTHORIZED PERMIT AGENT FORM (ONE FORM PER PERMIT)

This form may be used by a Qualifying Agent to designate an individual to obtain a permit on his/her behalf for a project for the qualifying company. The contractor should submit an original Authorized Permit Agent Form for each project for which he/she has designated an individual to pull permits. This designated individual shall further be identified as the authorized permit agent. This notarized form with an **ORIGINAL SIGNATURE** (no copies or faxes accepted), a copy of the contractor's license, a copy of the contractor's company license, and a copy of the driver's license of the authorized permit agent is to be given to the permit office in the city or county in which the project is located.

DO NOT SEND A COPY OF THIS FORM TO THE STATE LICENSING BOARD OFFICE UNLESS REQUESTED.

License verification by permitting office should be completed by visiting <http://verify.sos.ga.gov/verification>.

Name of Qualifying Agent or Individual License Holder:	
Qualifying Agent or Individual Contractor License #: <i>(attach a copy of license)</i>	
Name of Licensed Company:	
Company License #: <i>(attach a copy of license)</i>	
Name of Authorized Permit Agent: <i>(attach a copy of driver's license)</i>	

PROJECT (an original form is required for each project):

Company listed on contract:	
Property Owner's Name:	
Street Address:	
Apartment or Suite #	
City, State, Zip:	

I hereby designate the above listed Authorized Permit Agent to apply for and obtain the permit(s) for the project listed above. The undersigned, being licensed as a qualifying agent, do hereby affirm and swear, under oath, that all information on this form and on accompanying documents are true and correct.

Original Signature of Qualifying Agent (no copies or faxes accepted)

SUBSCRIBED AND SWORN BEFORE ME ON THIS THE

_____ DAY OF _____, 20 _____

NOTARY PUBLIC

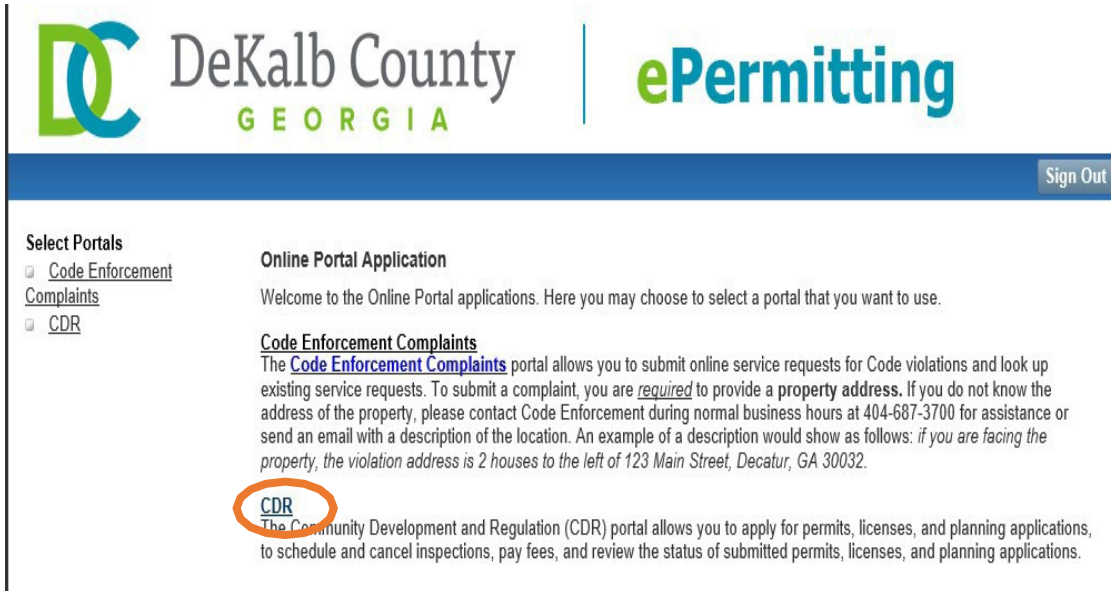
My Commission Expires:

(Notary Seal)

HOW TO SUBMIT A CITY SERVICES APPLICATION

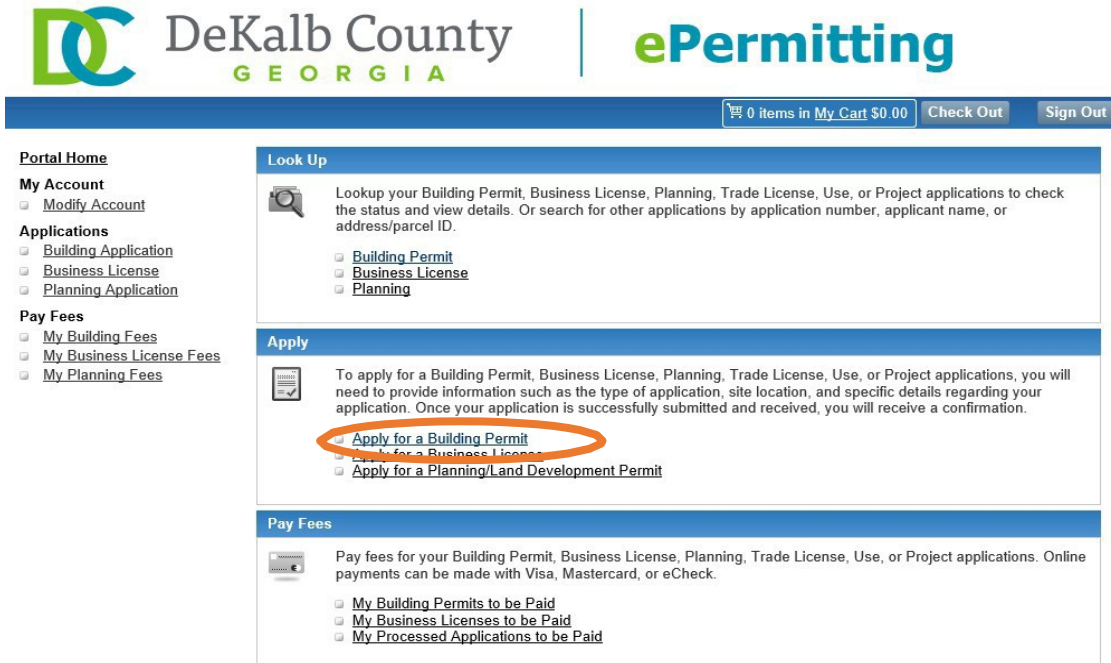
1. Login to your account.

2. Click on **CDR**



The screenshot shows the DeKalb County ePermitting website. The header includes the DeKalb County Georgia logo and the ePermitting logo. A 'Sign Out' button is in the top right. The main content area is titled 'Online Portal Application' and contains a 'Select Portals' sidebar with links for 'Code Enforcement', 'Complaints', and 'CDR'. The 'CDR' link is circled in red. The main text describes the 'Code Enforcement Complaints' portal and the 'CDR' portal, which allows users to apply for permits, licenses, and planning applications.

3. Look under the **Apply** section options and click on **Apply for a Building Permit**.



The screenshot shows the DeKalb County ePermitting website with a shopping cart showing 0 items for \$0.00. The 'Apply' section is highlighted, showing options for 'Apply for a Building Permit', 'Apply for a Business License', and 'Apply for a Planning/Land Development Permit'. The 'Apply for a Building Permit' link is circled in red. The 'Pay Fees' section is also visible, showing options for 'My Building Permits to be Paid', 'My Business Licenses to be Paid', and 'My Processed Applications to be Paid'.

4. Select the **Applicant's Information** and then click **Next**. Please note that the permit can be issued to a contractor or the homeowner. Refer to the permitting guides on our website for more information.
Forms: <https://www.dekalbcountyga.gov/planning-and-sustainability/forms>

DeKalb County GEORGIA | ePermitting

0 items in My Cart \$0.00 Check Out Sign Out

CDR Home

Building Home

My Account

- Modify Account

Apply

- My Saved Applications
- Apply

Permits

- My Permits

Reviews

- My Reviews

Inspections

- My Inspections

Fees

- My Fees

New Application for OWNER AS CONTRACTOR

Applicant Information	Additional Contacts	Permit Type	Address Location	Job Description	Details	Attachments	Application Confirmation
-----------------------	---------------------	-------------	------------------	-----------------	---------	-------------	--------------------------

Applicant Information

- Select the Applicant Type
- Click "Next"

Applicant Type

I am the property owner completing this work.

I am the contractor completing this work.

Other contact.

Cancel Next

Additional contacts or applicants may be added here by clicking on **Add Contact**.

DeKalb County GEORGIA | ePermitting

0 items in My Cart \$0.00 Check Out Sign Out

CDR Home

Building Home

My Account

- Modify Account

Apply

- My Saved Applications
- Apply

Permits

- My Permits

Reviews

- My Reviews

Inspections

- My Inspections

Fees

New Application for Test Account

Applicant Information	Additional Contacts	Permit Type	Address Location	Job Description	Details	Attachments	Application Confirmation
-----------------------	---------------------	-------------	------------------	-----------------	---------	-------------	--------------------------

Additional Contacts

If you do not wish to add additional contacts, click "Next" to proceed to next step.
To add additional contacts to this permit:

- Click "Add Contact"
- Enter required contact information
- Please select Other State, if contact address lies outside US.
- Click "Search"

Add Contact

Cancel Previous Next

5. Select **City Services: Reviews & Inspections for Incorporated Cities**.

The screenshot shows the DeKalb County ePermitting interface. The page title is "New Application for OWNER AS CONTRACTOR". A navigation bar at the top right shows "0 items in My Cart \$0.00" and buttons for "Check Out" and "Sign Out". On the left, there is a sidebar menu with categories: CDR Home, Building Home, My Account (with a sub-link for "Modify Account"), Apply (with sub-links for "My Saved Applications" and "Apply"), Permits (with a sub-link for "My Permits"), Reviews (with a sub-link for "My Reviews"), Inspections (with a sub-link for "My Inspections"), and Fees. The main content area has a tabbed interface with tabs for "Applicant Information", "Additional Contacts", "Permit Type", "Address Location", "Job Description", "Details", "Attachments", and "Application Confirmation". The "Permit Type" tab is active, displaying a list of permit options. The option "City Services: Reviews & Inspections for Incorporated Cities" is highlighted in blue. Other options include "Building Foundations Only", "Building Permit for New Construction, Additions, Alterations and Repairs for Structures", "Building Shell Only Permit", "CLA, Childcare, Adult Daycare, Personal Care (6 or less)", "Electrical Permit Application", "Mechanical Permit Application", "Permits for Ret. Walls, Commercial Gates & Fences, Trailer, Pool, Full Demolition, Move In As Is, Name/Ownership Change, Cell", "Plumbing Permit Application", "Sign Permit", "Water Meter and Sewer", and "Whitebox Building Permit".

6. Enter in the **Address** and click **Search**. Select the proper address from the list.

The screenshot shows the DeKalb County ePermitting interface for a "New Application for Test Account". The "Permit Location" tab is active, showing an "Address Search" section. The search criteria are: Number: 330, Dir: --, Street Name: ponce, Suffix: --, Unit/Apt.: (empty). The City is (empty), State is Georgia, and Zip is (empty). Below the search criteria, it says "2 Matches Found" and displays a table of results. The "Search" button is circled in orange. The table has columns for Street #, Dir, Street Name, Suffix, Unit/Apt/Suite, City, State, and Zip. The first row shows 330, (empty), PONCE DE LEON, PL, (empty), DECATUR, GA, 30030-. The second row shows 330, W, PONCE DE LEON, AVE, (empty), DECATUR, GA, 30030-. Below the table are "Cancel" and "Previous" buttons.

Street #	Dir	Street Name	Suffix	Unit/Apt/Suite	City	State	Zip
330		PONCE DE LEON	PL		DECATUR	GA	30030-
330	W	PONCE DE LEON	AVE		DECATUR	GA	30030-

7. Enter in the appropriate information in the fields marked by an asterisk (*), including the **Description** and then click **Next**.

DeKalb County | **ePermitting**
GEORGIA

0 items in My Cart \$0.00 [Check Out](#) [Sign Out](#)

CDR Home
Building Home
My Account
 [Modify Account](#)
Apply
 [My Saved Applications](#)
 [Apply](#)
Permits
 [My Permits](#)
Reviews
 [My Reviews](#)
Inspections
 [My Inspections](#)
Fees
 [My Fees](#)
Lookup Permit
 [Permit Number](#)
 [Applicant](#)
 [Address](#)

New Application for OWNER AS CONTRACTOR

Applicant Information	Additional Contacts	Permit Type	Address Location	Job Description	Details	Attachments	Application Confirmation
-----------------------	---------------------	-------------	------------------	-----------------	---------	-------------	--------------------------

Job Description

Enter the required field(s)
 Click "Next"

Work Type*

Occupancy Type*

Declared Valuation*

Building Area*
(square footage)



Priority

Project Name*

Description of the construction/proposed job*

[Cancel](#) [Previous](#) [Next](#) [Save for Later](#)

8. Select “Yes” for the appropriate review types in the drop-down box on the **Details** page, under the **Plans** header. If you are only receiving inspections to obtain a business license (no construction), select “Yes” Life Safety Plans and “No” to all other options. Be sure to pay attention to the fields marked with an asterisk (*). Please note that you may write “N/A” in the fields under the **Water Meter** header (size, location, and meter purchased). Then click **Next**.

0 items in My Cart \$0.00
[Check Out](#)
[Sign Out](#)

CDR Home

Building Home

My Account

- [Modify Account](#)

Apply

- [My Saved Applications](#)
- [Apply](#)

Permits

- [My Permits](#)

Reviews

- [My Reviews](#)

Inspections

- [My Inspections](#)

Fees

- [My Fees](#)

Lookup Permit

- [Permit Number](#)
- [Applicant](#)
- [Address](#)

New Application for OWNER AS CONTRACTOR

Applicant Information	Additional Contacts	Permit Type	Address Location	Job Description	Details	Attachments	Application Confirmation
-----------------------	---------------------	-------------	------------------	-----------------	---------	-------------	--------------------------

Application Details

- Enter in the details.
- Click "Next"

Fire Line Information

Plans

Completed Set of Plans(4) *	Yes	Property Type *	Non Residential
Scale of Drawing	No	Water Meter	
Fire Alarm Plans *	Yes	Size *	0
Fire Alarm Sprinkler Plans *	No	Location *	0
Hood Supp Plan *	No	Water Meter Purchased?	<input type="checkbox"/>
Fire line Shown *	No		
Fire site Plans *	No		
Life safety Plans *	No		

Cities/Municipalities in Dekalb

City/Municipality of *	CLARKSTON	Utility Permit	Utility Permit Number
Approved City Plans	Y	Location of Connection	
Approved Backflow Prevention Device	N	Agency	

ePlan Details

Will you be submitting drawings electronically through ePlans * Yes

[Cancel](#)
[Previous](#)
[Next](#)
[Save For Later](#)

- Be sure to upload your route sheet or letter from the city at this step. Do not upload drawings here. You will receive an invitation email from ProjectDox if you have a plan submission.

Click **Browse** to locate your file. Once the file has been attached, then click **Upload**. Then **Next**.

DeKalb County GEORGIA | ePermitting

0 items in My Cart \$0.00 Check Out Sign Out

CDR Home
Building Home
My Account
 [Modify Account](#)
Apply
 [My Saved Applications](#)
 [Apply](#)
Permits
 [My Permits](#)
Reviews
 [My Reviews](#)
Inspections
 [My Inspections](#)
Fees
 [My Fees](#)
Lookup Permit
 [Permit Number](#)
 [Applicant](#)
 [Address](#)

New Application for Test Account

Applicant Information	Additional Contacts	Permit Type	Address Location	Job Description	Details	Attachments	Application Confirmation
-----------------------	---------------------	-------------	------------------	-----------------	---------	-------------	--------------------------

Attachments

The required documents must be submitted or attached to your application. You may also submit the documents via mail or in person. Please include the Primary permit number.

To Upload Documents:

- Click "Browse" to select the files/documents from your computer to attach to your application
NOTE: EACH FILE CAN NOT EXCEED 10MB.
- Enter the description
- Click "Upload" to add files
- Click "Next"

File Path: **Browse...**

File Description:

Upload

Cancel Previous **Next**

- Confirm the information on your application and then click **Apply**.

DeKalb County GEORGIA | ePermitting

0 items in My Cart \$0.00 Check Out Sign Out

CDR Home
Building Home
My Account
 [Modify Account](#)
Apply
 [My Saved Applications](#)
 [Apply](#)
Permits
 [My Permits](#)
Reviews
 [My Reviews](#)
Inspections
 [My Inspections](#)
Fees
 [My Fees](#)
Lookup Permit
 [Permit Number](#)
 [Applicant](#)
 [Address](#)

New Application for OWNER AS CONTRACTOR

Applicant Information	Additional Contacts	Permit Type	Address Location	Job Description	Details	Attachments	Application Confirmation
-----------------------	---------------------	-------------	------------------	-----------------	---------	-------------	--------------------------

Permit Information Confirmation

To submit your application:

- Confirm the permit information is correct.
 If changes need to be made click the appropriate "Edit" button.
- Click the "Apply" button to submit your permit.
- Click the "Save For Later" button to save and continue processing the permit later.

Permit Information To Be Submitted

Edit Permit Type: City Services: Reviews & Inspections for Incorporated Cities
Edit Applicant Type: Other contact
Edit Primary Contact Name: OWNER AS CONTRACTOR
Edit Address: 330 West Ponce de Leon Ave DECATUR GA 30030
Edit Phone: (404)371-2000
Edit No contact added.
Edit Site Location: 1300 COMMERCE DR DECATUR GA 30030-
Edit Occupancy Type: Business
Edit Work Type: County Review
Edit Declared Valuation: \$1.00
Edit Building Area: 1
Edit Project Name: TEST
Edit Description: TEST
Edit Detail page information.

Uploaded Filename	File Description
COMBINED REVIEWS.pdf	ROUTE SHEET

Cancel Previous **Apply** Save For Later

11. A permit number will be issued to you. You may see information in the Application Check Status window, however a permit tech will process the application and those items will be updated or removed, if they are not applicable.

The screenshot shows the DeKalb County ePermitting interface. At the top, there is a navigation bar with the DeKalb County logo and 'ePermitting' text. Below the navigation bar, there is a shopping cart icon showing '0 items in My Cart \$0.00' and buttons for 'Check Out' and 'Sign Out'. The main content area is titled 'New Application for OWNER AS CONTRACTOR'. On the left, there is a sidebar menu with categories like 'CDR Home', 'Building Home', 'My Account', 'Apply', 'Permits', 'Reviews', 'Inspections', 'Fees', and 'Lookup Permit'. The main content area displays 'Application Status' with a red warning message: 'In order to complete the application, the following items need to be completed in the Application Check Status.' Below this, there are fields for 'Permit Type', 'Permit Number', 'Site Location', 'Primary Applicant', 'Issue Date', 'Fees', 'Declared Value', 'Legal Occupancy', 'Description of Work', and 'Milestone'. At the bottom, there is an 'Application Checkstatus' table with two rows, both showing 'Pending' status.

12. If there are fees, add them to the cart by clicking **Add All To Cart** and then click on **CheckOut**.

The screenshot shows the DeKalb County ePermitting 'My Fees' page. The navigation bar at the top shows '0 items in My Cart \$0.00' and buttons for 'Check Out' and 'Sign Out', both of which are circled in orange. The main content area is titled 'My Fees' and shows 'Fees information associated with Test Account'. There is a search criteria section with 'Search Result - 3'. Below this is a table with the following data:

Permit #	Type	Description	Amount	Status	Actions
3002084	Mechanical Permit Application	TECHNOLOGY FEE	\$20.00	Unpaid	Add to Cart
3002084	Mechanical Permit Application	GAS LINE FEE	\$25.00	Unpaid	Add to Cart
3002084	Mechanical Permit Application	MINIMUM PERMIT FEE	\$75.00	Unpaid	Add to Cart

At the bottom of the table, there is a button labeled 'Add All To Cart', which is also circled in orange. Below the table, there is a link to 'Click here' to create a printable report of the search result.

13. Check the **My Cart** check box to select all the fees, and click on **Next**.

DeKalb County GEORGIA | ePermitting

5 items in My Cart \$345.00 | Check Out | Sign Out

CDR Home
Building Home
My Account
 Apply
 Permits
 Reviews
 Inspections
 Fees
 Lookup Permit

Pay Fees

- Review the selected application(s) to be paid and the amount due.
- Click on "Next" to proceed with payment.
- Otherwise, click "Cancel" to exit.

<input type="checkbox"/>	Item Description	Amount
<input type="checkbox"/>	3001397 - Building Permit for New Construction, Additions, Alterations and Repairs for Structures 6158 RAINTREE BND LITHONIA GA 30058-TECHNOLOGY FEE	\$20.00
<input type="checkbox"/>	3001397 - Building Permit for New Construction, Additions, Alterations and Repairs for Structures 6158 RAINTREE BND LITHONIA GA 30058-BUILDING PERMIT FEE - ALTERATIONS	\$65.00
<input type="checkbox"/>	3001397 - Building Permit for New Construction, Additions, Alterations and Repairs for Structures 6158 RAINTREE BND LITHONIA GA 30058-CC/CO FEE	\$50.00
<input type="checkbox"/>	3001397 - Building Permit for New Construction, Additions, Alterations and Repairs for Structures 6158 RAINTREE BND LITHONIA GA 30058-FIRE LIFE SAFETY REVIEW FEE	\$100.00
<input type="checkbox"/>	3001397 - Building Permit for New Construction, Additions, Alterations and Repairs for Structures 6158 RAINTREE BND LITHONIA GA 30058-MINIMUM PERMIT FEE	\$110.00

Remove Selected Fees | Subtotal: \$345.00

Cancel | **Next**

14. You will be taken to the Official Payments site to complete the transaction

Powered by OFFICIAL PAYMENTS

Back to DeKalb County Permits | Make A Payment | Payment Verification | Help | En Español

My Account
 Log In (Optional)
 E-mail Address:
 Password:
 Submit
 Sign Up / Forgot Password?

Make A Payment

DeKalb County Permits, GA
 Dekalb Permit Payments Test

Select a Payment Option, then click "Continue" to proceed with the payment process.

- Your convenience fee will be calculated and presented on the next page, if applicable.
- Do not use your browser's "Back" button. Instead, navigate using the buttons below.

*Payment Amount \$ 345 - 00

Payment Options:

- Debit Card
- Debit Card
- E-Check
- Credit Card

VISA | MASTERCARD | DISCOVER | AMERICAN EXPRESS

Cancel | **Continue**

PRIVACY POLICY | Complaints | Legal Notices | Pay By Phone | Tax Professionals | About Us | Working With Official Payments | Sitemap
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15. Once the fees are paid, your submission will be reviewed by staff. Please be sure to check your email because you will receive communications from county personnel. If a plan review is required, you will receive an invitation email from ProjectDox that includes instructions, and a separate temporary password (for new users). You may visit our ePermtting page at <https://www.dekalbcountyga.gov/planning-and-sustainability/e-permitting> to obtain information regarding ProjectDox.



Resubmittal Process for Dekalb County

Please, resubmit your application online here:

<https://dekalbga-wso1.cloud.infor.com/IPSPProdDP/Views/AgencyLogin.aspx>.

Attached is a step by step guidelines to assist.

ONLY UPLOAD THE APPLICATION FORM

(<https://www.dekalbcountyga.gov/sites/default/files/user2017/City%20Civil%20Design%20Review%20Application.pdf>) AND THE CITY ROUTING SHEET DURING THIS PROCESS, NOT THE PLANS.

After you successfully submitted your application, let us know, we will process it and generate the fees that you can also pay online.

After the fees are paid, you will then receive an upload reminder notification to send you to another portal where you can upload your plans for review.

This process will repeat itself for each resubmittal during the review and approval process.

Cassandra Lee

Land Development

DeKalb County Department of Planning & Sustainability

330 W. Ponce De Leon Ave. Ste. 200

Decatur, Ga. 30030

Email: cmlee@dekalbcountyga.gov

Phone: [404-371-2129](tel:404-371-2129)

GSWCC

This is the GSWCC review process and what the overall procedure will be:

1. Apply to City of Brookhaven for a CITY LDP on the City 'Project Portal'.
2. Route the same set of plans to Dekalb County for review.
3. Apply for the Brookhaven City Building permit for the structure.
4. Submit plans to GSWCC for review
(3 hard copies to the address in the Review Request Letter*)
and to the City for review
(2 hard copies for a new project)




*See the GSWCC Review Request Letter from Tim Ward included in the Appendix of the Project Manual.

Josh Jackwood
E&SC Specialist, Urban Lands
Ga Soil & Water Conservation Commission
4310 Lexington Road
Athens, Georgia 30605

Included in the appendix is the letter that needs to be sent with the North Boardwalk plans requesting GSWCC review. All the Murphey Candler Park projects will be need GSWCC review since they are all within 200' of a state water, which is Murphey Candler Lake.

The plans need to go to the GSWCC even if under an acre and are within 200' of a state water (which the North Boardwalk is). So regardless this project needs to be sent to GSWCC.

If you have any questions on the process of submitting plans to GSWCC just call Tim Ward.

[Tim Ward](#), P.E., CFM
City Engineer
Community Development Department
City of Brookhaven
 [678-644-6421](tel:678-644-6421) |  direct: [404-637-0486](tel:404-637-0486) |  Main: [404 637-0500](tel:404-637-0500)
Tim.Ward@BrookhavenGA.gov
www.BrookhavenGA.gov
[4362 Peachtree Rd. | Brookhaven, GA | 30319](#)



November 6, 2020

Josh Jackwood
E&SC Specialist, Urban Lands
GA Soil & Water Conservation Commission
4310 Lexington Rd,
Athens, GA 30605

RE: City of Brookhaven
Murphy Candler Park projects

Dear Mr. Jackwood:

The City of Brookhaven Community Development Department has received several land disturbance permits (LDPs) for the projects at Murphy Candler Park.

These projects are within 200' of a state water. The City requests GSWCC review these submissions and issue an approval or comments to the applicant.

Should you have any questions, please contact me at (404)-637-0486 or timothy.ward@brookhavenga.gov.

Regards,

Timothy J Ward

Timothy Ward, P.E.
City Engineer
City of Brookhaven
Community Development Department

No Rise Coordination:

When the Design/Build construction documents are completed and submitted to the City for an LDP, the city may determine that a 'No Rise' certification study is necessary and has to be done on the lake.

If in that event, the city will hire a local consultant to prepare the 'No Rise' documents for the project.

The Design/Build contractor will be expected to collaborate with the Consultant to complete the No Rise study by providing completed plans and data to the Consultant for their use. The Consultant will also need access to the site for on-site investigations.

If, in the event that the no rise study requires changes in the plans for the boardwalk, the contractor will be asked to submit a Change Request with detailed explanations as to how much this will increase or decrease his design scope and construction bid amount.

Lee Croy will act as the city representative during the No Rise study process.