SECTION 00 91 13

ADDENDA

ADDENDUM NUMBER TWO – ISSUED OCTOBER 13, 2016

DATE: October 13, 2016

PROJECT TITLE: Marine Research Facility – Building Package

PROJECT NUMBER: 413.B

OWNER: Mississippi State Port Authority

ARCHITECT OF RECORD: Eley Guild Hardy Architects PA

TO: Prospective Bidders

This Addendum forms a part of the Contract Documents and modifies the September 19, 2016 Issued for Bid documents with amendments and additions noted below.

Acknowledge receipt of this Addendum in the space provided in the Bid Form. Failure to do so may disqualify the Bidder.

This Addendum consists of 6 pages and 40 pages of attachments as follows:

**SPECIFICATION CHANGES:**

1. Section 00 73 14 Supplementary Conditions: Delete the Davis-Bacon Wage Rate Determination in TAB A under Attachment No. 4 – US Department of Housing and Urban Development Office of Labor Relations Federal Labor Standards Provisions in its entirety and replace with the attached Davis-Bacon Wage Rate Determination (General Decision Number: MS160119 published September 16, 2016). (12 pages).

2. Section 00 41 43 Bid Form: Delete the Section 00 41 43 Bid Form in its entirety and replace with the attached Section 00 41 43 (6 pages).

   a. Pay Item 33 49 00.03 was added.

   b. Pay Item 33 49 00.04 was added.

   c. Changed quantities on Pay Items 03 30 00.01 and 03 30 00.02 to include the revised ground sign.
3. Section 03 45 00 Architectural Precast Concrete: Add this Section for work relating to the revised ground sign (16 pages).

4. Section 09 25 13 Acrylic Plaster Finish: Add this Section for work relating to the revised ground sign (4 pages).

5. Section 10 14 00 Signage:
   a. 1.1 SUMMARY: Replace paragraph 5 with the following: “5. Aluminum letters – backlit”.
   b. 1.1 SUMMARY: Add paragraph 7 to read: “7. Stainless steel letters and shapes – standard”.
   c. 2.6 ALUMINUM LETTERS – STANDARD: Delete this section in its entirety and replace with the following:

   2.6 STAINLESS STEEL LETTERS AND SHAPES – STANDARD
   
   A. Equal to cast stainless letters and shapes as manufactured by Gemini Incorporated.
      1. Color to be selected from manufacturer’s standard colors.
   B. Mounting: 1” standoffs (studs and spacers).
   C. Style:
      1. Art-Deco style letters in the style as shown on the drawings.
      2. Radiused horizontal bands and shapes as shown on the drawings.
   D. Size: As shown on the drawings
      1. Provide cast stainless letters for the following:

      MISSISSIPPI STATE PORT AUTHORITY
      AT
      GULFPORT

      2. Provide cast stainless horizontal banding as shown on the drawings:

6. Section 33 49 00 Cast-In-Place Concrete Structures:
   a. Part 5 PAYMENT; 5.1: Add Pay Items 33 49 00.03 and 33 49 00.04 to the end of this section.
DRAWING CHANGES:

1. Sheet L100 – Landscape Plan:
   a. The plantings shown around the ground sign at the corner of 30th Avenue and Highway 90 shall be field modified in the field with the landscape architect to accommodate the new design of the ground sign as shown attached herein. The overall quantities of plant material will not be increased or decreased as a result of this adjustment.
   b. Backfill between planter walls with approved topsoil and planting soil mix at ratios described on drawings and in planting specifications.

2. Sheet L200 – Irrigation Plan:
   a. The irrigation system shown around the ground sign at the corner of 30th Avenue and Highway 90 shall be field modified to accommodate the new design of the ground sign as shown attached herein. Landscape Architect shall approve modified layout in the field prior to planting operations.
   b. Provide sleeves in the concrete walls to extend irrigation into the raised planter area. Seal all sleeve openings with an approved expandable foam once irrigation pipes are installed to eliminate any matriculation of soil through sleeve.
   c. An irrigation zone shall be added for the sign planters. A drip irrigation system (Rainbird or approved equal drip tubing) shall be installed in all sign planters under the pine straw mulch.
   d. Note all irrigation modifications on the As Built drawings.

3. Sheet S502 – Foundation Sections and Details:
   a. Delete Detail 4/S502 Section - Signage Section in its entirety. Foundation and reinforcing for the new ground sign will be as shown attached herein.

4. Sheet A002-R – Site Plan New (1 page/sheet):
   a. Changes were made to the ground sign at the corner of 30th Avenue and Highway 90. See attached drawings for new sign location and footprint (Revision #2)
   b. The flagpole shown on the corner of the sidewalk adjacent to the building has been relocated to the ground sign. An additional flagpole has been added for a total of two flagpoles. See attached drawings for new flagpole locations.

5. Sheet A110 – Ground Floor:
   a. Delete the reference to the “FLAGPOLE” in the northwest corner of the west stair tower. The flagpole has been relocated to the new ground sign area.
6. A 511 – Site Plan Details:

   a. Delete Detail 4/A511 in its entirety. Signage details and flagpole details will be as shown on attached Sheet A511.R. Remaining details on A511 referencing the Ballast Tank are still valid details.

7. A511.R – Signage Details (1 page/sheet):

   a. Signage details deleted from A511 have been provided on Sheet A511.R

8. Sheet M300 – HVAC Schedules and Details:

   a. Add the following schedules. Make changes to diffuser call-outs as indicated by the room name and numbers in the schedules:

   **CEILING SUPPLY DIFFUSER SCHEDULE**

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   **CEILING RETURN DIFFUSER SCHEDULE**

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9. Sheet E101 – Electrical Site Plan:

   a. Delete the two (2) Luminaires “FL” at the northwest corner of the site and associated conduit and wire from these Luminaires up to their connection point into the lighting circuit at Luminaire “BL”.

PGRP Project No.: 413.B
PGRP Project Title: Marine Research Facility – Building Package
Architect: Eley Guild Hardy Architects PA
Issued – October 13, 2016
b. The northwest corner of the site has been modified to provide for new signage and flagpoles. Refer to Sheet A002R (Revision Number 2) and Sheet A511.R both attached to this Addendum #2.

c. Refer to Sheet A511.1R: Provide four (4) total Luminaires “FL” and install two about each flagpole at the location described as “Floodlight”. Provide 2-10, 1-10G in ½” Schedule 40 PVC and connect all Luminaires “FL” on a single circuit. Stub conduit with conduit with conductors out of the southeast side of signage foundation at +/- 24” below grade. Terminate conduit and conductors in a 4”x4” weatherproof box at grade level 12” from signage wall.

d. Provide two (2) 1” Schedule 40 PVC nipples at +/- 10” below finish grade through the northwest cast-in-place wall for future access into the planting bed within the signage. Refer to Sheet A511.R.

10. Sheet E304 – Luminaire Schedule:

   a. Add Columbia to the list of approved manufacturer’s for the following luminaires, A, Ae, B, Be, C, Ce, R, T1, T1e, T2.
   b. Add Newstar Lighting to the list of approved manufacturer’s for the following luminaires, CP, CPe.
   c. Add Gammalux Lighting to the list of approved manufacturer’s for the following luminaires, F1, F2, H1, H2, H3, H3e, H4, H4e, N, Ne.
   d. Add Prescolite to the list of approved manufacturer’s for the following luminaires, 6G1, 6G1e, 6G2, 6G2e, 6G3, 6G3e, 6G4, 6G4e, 6G5, 6G5e, SH.
   e. Add Atlantic Lighting to the list of approved manufacturer’s for the following luminaires 6G6.
   f. Add Evergreen Lighting to the list of approved manufacturer’s for the following luminaires L3, L4.
   g. Add Hubbell to the list of approved manufacturer’s for the following luminaires PT.
   h. Add Hubbell Spaulding to the list of approved manufacturer’s for the following luminaires S1, S2, SF.
   i. Add Kim Lighting to the list of approved manufacturer’s for the following luminaires FL.
   j. Add Dual-Lite to the list of approved manufacturer’s for the following luminaires X1, X2, X3.

_END OF DRAWING AND SPECIFICATION CHANGES FOR ADDENDUM NO. ONE_

_END OF DOCUMENTS_
October 10, 2016

Ms. Angela Shortt
MS State Port Authority
Port Restoration Office
2510 14th Street, Suite 1400
Gulfport, MS 39501

Dear Ms. Angela Shortt:

SUBJECT: Request for Wage Determination: MS State Port Authority
        Marine Research Facility Foundation – Project #413-B

Enclosed is the updated wage decision for use in construction of the above referenced project. The original wage determination requested from this office on September 14, 2016 has changed. Modification Number 4 of Federal Decision Number MS160119 was published on September 16, 2016 and is attached. A copy of the original request for wage determination is also attached.

Decisions are effective from the date of notice of publication in the Federal Register without limitation as to time. However, a decision should not be used without contacting this office and requesting any current modifications or supersedeas decisions ten (10) days before bid opening. Also, as you will note, this cover sheet, as attached to the updated decision, is not to be removed and shall be included along with the wage decision as it is bound into your specifications.

Should you need additional information, please call Diane Laird at 601-359-2905.

Sincerely,

[Signature]

Philip Carter
MDA Program Manager

Enclosures
General Decision Number: MS160119 09/16/2016 MS119
Superseded General Decision Number: MS20150119
State: Mississippi
Construction Type: Building
County: Harrison County in Mississippi.

BUILDING CONSTRUCTION PROJECTS (Does not include residential construction consisting of single family homes and apartments up to and including 4 stories)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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ELEC0903-002 12/01/2015

Rates | Fringes
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Electrician (Includes Low Voltage Wiring and Installation of HVAC/Temperature Controls)......$ 25.30 | 12.5%+4.00

* IRON0058-009 06/01/2015

Rates | Fringes
------|------
IRONWORKER, STRUCTURAL AND ORNAMENTAL, Excludes Metal Building Erection.................$ 20.95 | 8.11

PLUM0568-001 12/01/2015

Rates | Fringes
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PLUMBER (including HVAC pipe)....$ 25.11 | 8.87

SHEE0214-008 07/01/2013

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<td>PAINTER: Brush, Roller and Spray</td>
<td>$12.75</td>
<td>0.00</td>
</tr>
<tr>
<td>PIPEFITTER, Excludes HVAC Pipe Installation</td>
<td>$21.83</td>
<td>0.00</td>
</tr>
<tr>
<td>ROOFER</td>
<td>$14.50</td>
<td>0.00</td>
</tr>
<tr>
<td>TRUCK DRIVER</td>
<td>$11.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

10/8/2016
Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifier" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUMB0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for these classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers
Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the
interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

   Administrative Review Board
   U.S. Department of Labor
   200 Constitution Avenue, N.W.
   Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=================================================================================================

END OF GENERAL DECISION
| **Disaster Recovery Division** | 501 North West Street (39201) • P. O. Box 849 (39265)  
Jackson, Mississippi  
(601) 359-9274 |
|---|---|
| **REQUEST FOR WAGE DETERMINATION**  
**AND RESPONSE TO REQUEST**  
(by Davis-Bacon Act as Amended and Related Statutes)** |
| **Requesting Officer:** Angela M. Shortt |
| **Agency:** MISSISSIPPI STATE PORT AUTHORITY  
**Phone Number:** (228) 365-4300 Ext 277 |
| **Project Number:** 413-B  
**Project Name:** Marine Research Facility Foundation Package |
| **For Disaster Recovery**  
**Use Only Response to Request** |
| **Type of Work** |
| **Bldg.** Highway □ □ □ |
| **Resid** □ □ □ Heavy |
| **Date of Request**  
September 6, 2016  
**Estimated Advertising Date**  
September 19, 2016 & September 26, 2016  
**Est. Bid Opening Date**  
October 18, 2016  
**Est. Construction Start Date**  
December 1, 2016 (After MDA Approval)  
**Est. $ Value of Contract**  
$8.5M - 10.5M  
**Est. Contract Award Date**  
October 27, 2016 |
| **Federal Register Decision No.**  
MS160119 |
| **Location of Project (City or other description)**  
GULFPORT, MISSISSIPPI |
| **Federal Register Date**  
05/06/2016  
**County:** HARRISON  
**State:** Mississippi |
| **Prior Supersedes Decision**  
MS20150119  
**Approving Representative, Signature and Title**  
Phillip Carter/MDA Program Manager |
| **Address to which wage determination should be mailed. Must be complete and include ZIP CODE (Print or Type)**  
2510 14th St., Suite 1450  
Gulfport, MS 39501 |
| **Send copy of Wage Decision To:** Port Restoration Office |
| **Description of Work (Be Specific - Print or Type)**  
This Project picks up where the Early Start Foundation Package left off and includes the construction of the pile caps, grade beams on existing auger-cast piles; construction of utilities, asphalt and concrete paving, curbs, sidewalks, fencing, gates, landscaping, concrete columns, structural steel columns and framing, elevated floor slab, building envelope to include aluminum composite wall panels, modified bitumen roof and aluminum storefront/curtainwall, interior finishes, mechanical, electrical, communications and fire protection systems all as shown on the final construction documents. |
General Decision Number: MS160119 05/06/2016 MS119
Superseded General Decision Number: MS20150119
State: Mississippi
Construction Type: Building
County: Harrison County in Mississippi.

BUILDING CONSTRUCTION PROJECTS (Does not include residential construction consisting of single family homes and apartments up to and including 4 stories)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

<table>
<thead>
<tr>
<th>Modification Number</th>
<th>Publication Date</th>
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<tbody>
<tr>
<td>0</td>
<td>01/08/2016</td>
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<tr>
<td>1</td>
<td>03/11/2016</td>
</tr>
<tr>
<td>2</td>
<td>04/08/2016</td>
</tr>
<tr>
<td>3</td>
<td>05/06/2016</td>
</tr>
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</table>

**ELEC0903-002 12/01/2015**

| Electrician (Includes Low Voltage Wiring and Installation of HVAC/ Temperature Controls) | $ 25.30 | 12.5%+4.00 |

**IRON0058-009 10/01/2013**

| IRONWORKER, STRUCTURAL AND ORNAMENTAL, Excludes Metal Building Erection | $ 20.40 | 7.24 |

* **PLUM0566-001 12/01/2015**

| PLUMBER (including HVAC pipe) | $ 25.11 | 8.87 |

**SHERC214-008 07/01/2013**

<table>
<thead>
<tr>
<th>Craft</th>
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<th>Fringes</th>
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<tr>
<td>SHEET METAL WORKER (including HVAC Duct)</td>
<td>$25.65</td>
<td>9.49</td>
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<td>SUMS2008-046 07/07/2008</td>
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<td>BRICKLAYER</td>
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<td>0.02</td>
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<td>CARPENTER, Includes Acoustical Ceiling Installation, Cabinet Installation, Drywall Hanging, and Form Work</td>
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<tr>
<td>CEMENT MASON/CONCRETE FINISHER</td>
<td>$10.91</td>
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<tr>
<td>GLAZIER</td>
<td>$10.00</td>
<td>0.00</td>
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<tr>
<td>IRONWORKER STRUCTURAL (Metal Building Erection Only)</td>
<td>$11.90</td>
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<tr>
<td>LABORER: Common or General</td>
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<td>LABORER: Mason Tender - Brick</td>
<td>$10.00</td>
<td>0.00</td>
</tr>
<tr>
<td>OPERATOR: Backhoe</td>
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</tr>
<tr>
<td>OPERATOR: Bulldozer</td>
<td>$13.50</td>
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</tr>
<tr>
<td>OPERATOR: Crane</td>
<td>$16.73</td>
<td>0.92</td>
</tr>
<tr>
<td>OPERATOR: Excavator</td>
<td>$11.33</td>
<td>0.00</td>
</tr>
<tr>
<td>OPERATOR: Forklift</td>
<td>$11.75</td>
<td>1.61</td>
</tr>
<tr>
<td>OPERATOR: Grader/Blade, Includes Finishing</td>
<td>$12.50</td>
<td>1.57</td>
</tr>
<tr>
<td>OPERATOR: Trackhoe</td>
<td>$14.50</td>
<td>0.00</td>
</tr>
<tr>
<td>PAINTER: Brush, Roller and Spray</td>
<td>$12.75</td>
<td>0.00</td>
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END OF GENERAL DECISION
Proposal of ________________________________ (hereinafter called "Bidder"), doing business as a ____________________. (insert "a corporation," "a partnership," or "an individual" applicable; if a corporation, indicate state of incorporation) to the Mississippi State Port Authority ("hereinafter called "Port Authority" or "Authority"), an agency existing under the laws of the State of Mississippi.

In compliance with your Advertisement for Bids, Bidder hereby proposes to perform all Work for the Work of Improvement known as:

"Marine Research Facility – Project No. 413.B"

and all appurtenant Work and materials required to complete the Work, in strict accordance with the Contract Documents, within the time set forth therein, and at the prices stated below.

By submission of this Bid, each Bidder certifies, and in the case of a joint Bid, each party thereto certifies as to his/her own organizations, that this Bid has been arrived at independently, without consultation, communication or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

Bidder hereby agrees to commence Work of Improvement under this Contract within 5 consecutive calendar days after the date of service of the Notice to Proceed and to fully complete the project within 334 consecutive calendar days thereafter as provided in Sections 7 and 34 of the General Conditions.

Bidder acknowledges receipt of the following Addenda: (if none, so state)

<table>
<thead>
<tr>
<th>No.</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>Date:</td>
</tr>
<tr>
<td>No.</td>
<td>Date:</td>
</tr>
<tr>
<td>No.</td>
<td>Date:</td>
</tr>
</tbody>
</table>

Attached to this Bid is a list of Subcontractors (Appendix A) as required by Section 27 of the General Conditions and Advertisement for Bid.

Bidder agrees to perform all the Work described in the Contract Documents for the lump sum and unit prices as set forth in the following Bid Schedule.

**UNIT PRICES**: For changing quantities of work from those indicated on the Drawings and contained within these Specifications, upon written inspections from the Engineer and the Mississippi State Port Authority and for determining payments on account of the contract, the following unit prices shall prevail:
<table>
<thead>
<tr>
<th>PAY ITEM</th>
<th>DESCRIPTION</th>
<th>UNITS</th>
<th>QUANTITY</th>
<th>UNIT COST</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>00 00 00</td>
<td>Construction of Marine Research Facility (All work described in other Sections of the Specifications not included below shall be included in this Pay Item).</td>
<td>Lump Sum</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01 09 00.01</td>
<td>Construction Layout</td>
<td>Lump Sum</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01 20 00</td>
<td>Mobilization/Demobilization/General Conditions</td>
<td>Lump Sum</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01 55 00.01</td>
<td>Maintenance of Traffic</td>
<td>Lump Sum</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01 55 00.02</td>
<td>Maintenance Limestone</td>
<td>Ton</td>
<td>100</td>
<td></td>
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</tr>
<tr>
<td>02 41 00.01</td>
<td>Removal of Pavement (All types and all depths)</td>
<td>Square Yards</td>
<td>6800</td>
<td></td>
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</tr>
<tr>
<td>02 41 00.02</td>
<td>Removal of Fence</td>
<td>Lineal Feet</td>
<td>1350</td>
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<tr>
<td>02 41 00.03</td>
<td>Sawcutting</td>
<td>Lineal Feet</td>
<td>1500</td>
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<tr>
<td>02 41 00.04</td>
<td>Removal of Curb</td>
<td>Lineal Feet</td>
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<tr>
<td>03 30 00.01</td>
<td>Cast-in-Place Concrete (Horizontal) Include appropriate percentage of 03 05 10 into this pay item</td>
<td>Cubic Yard</td>
<td>2315</td>
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<tr>
<td>03 30 00.02</td>
<td>Cast-in-Place Concrete (Vertical) Include appropriate percentage of 03 05 10 into this pay item</td>
<td>Cubic Yard</td>
<td>904</td>
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<tr>
<td>05 12 00.01</td>
<td>Structural Steel Framing (Beams &amp; Columns)</td>
<td>Ton</td>
<td>225</td>
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<td>05 12 00.02</td>
<td>Structural Steel Framing (Misc. angles, channels, bars, etc.)</td>
<td>Ton</td>
<td>9</td>
<td></td>
<td></td>
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<tr>
<td>05 31 00.01</td>
<td>Structural Steel Deck (Floor 2&quot; VLI)</td>
<td>Ton</td>
<td>19</td>
<td></td>
<td></td>
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<td>05 31 00.02</td>
<td>Structural Steel Deck (Roof 1.5&quot; B)</td>
<td>Ton</td>
<td>19</td>
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<tr>
<td>05 50 00.01</td>
<td>Metal Fabrications (Stairs - steel concrete pan)</td>
<td>Each</td>
<td>6</td>
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<td>05 50 00.02</td>
<td>Metal Fabrications (All other material not included in Stairs)</td>
<td>Lump Sum</td>
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<tr>
<td>31 22 00.01</td>
<td>Borrow Material, Type C (LVM)</td>
<td>Cubic Yard</td>
<td>2,000</td>
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<tr>
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<td>Unclassified Excavation (PM)</td>
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<td>Excess Excavation (PM)</td>
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<td>31 23 00</td>
<td>Excavation and Fill Structural</td>
<td>Cubic Yard</td>
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<tr>
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<td>Description</td>
<td>Unit</td>
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<tr>
<td>31 25 00.01</td>
<td>Silt Fence</td>
<td>Lineal Feet</td>
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<td>Straw Wattles</td>
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<td>Inlet Protection</td>
<td>Each</td>
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<td>Construction Entrance</td>
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<td>31 32 00.01</td>
<td>Geogrid Layer</td>
<td>Square Yard</td>
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<td>32 10 00.01</td>
<td>Select Bedding Material (FM)</td>
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<td>32 10 00.02</td>
<td>Select Foundation Material</td>
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<td>32 11 00.01</td>
<td>610 Limestone (8” thick)</td>
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<td>32 12 00.01</td>
<td>2” MT (9.5mm Mix) Surface</td>
<td>Square Yard</td>
<td>4,900</td>
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<td>2” MT (12.5mm Mix) Base</td>
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<td></td>
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<tr>
<td>32 13 00.01</td>
<td>Concrete Paving (8” thick)</td>
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<tr>
<td>32 14 20</td>
<td>Concrete Pavers</td>
<td>Square Feet</td>
<td>8,220</td>
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<td></td>
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<td>32 16 00.01</td>
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### Bid Schedule

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<td>2” Irrigation Water Service Tap with Meter</td>
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<td>33 11 00.12</td>
<td>2” Irrigation Water Service Tap with Corp Stop</td>
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<td>6” PVC Sewer Cleanout Assembly</td>
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<td>18” PVC Drain Inlet</td>
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<td>24” RCP</td>
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<td>Connect to Existing Drain Inlet</td>
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<td>Cast-in-Place Concrete Drainage Structures</td>
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<td>Castings and Gratings</td>
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### BASE BID:

**TOTAL AMOUNT OF BASE BID:** $_________________________ (IN FIGURES)

**TOTAL AMOUNT OF BASE BID:** __________________________ (IN WORDS)

Note: Bids shall include sales tax and all other applicable taxes and fees. All blanks shall be filled in. Total amount of Bid shall be the sum of the Items. Contract Award will be made based upon the pricing of this Bid Schedule and the contractor qualifications as set forth in the bid documents. In case of discrepancy between the sum of the items and Total Amount of Bid, the sum of the items shall be considered to be the Total Amount of Bid. Award will be made to only one Bidder based upon the Base Bid as applicable from this Bid Form and determination of best value.
The undersigned, having read and understood the Bidding Documents and examined the Project site and adjoining areas, and being familiar with the obstacles and conditions that will affect proposed Work, hereby offers and agrees to furnish all labor, equipment and materials and to perform all the Work required for “Marine Research Facility” project at the Mississippi State Port Authority at Gulfport, Port of Gulfport, Gulfport, Mississippi in accordance with the Contract Documents and at the prices stated in the preceding Bid Schedule.

______________________________
Legal Name of Bidder

______________________________
Address

______________________________
Signature of Authorized Person

______________________________
City, State Zip

______________________________
Name & Title of Authorized Person

______________________________
Attest

______________________________
Name & Title

(SEAL--if Bid is by a corporation)

Notes:
If Bid is by a corporation, corporate seal is affixed in space provided immediately above.

Signature is by an individual legally authorized to bind Bidder to a contract. If signature is by an agent of Bidder, the current power-of-attorney verifying agent’s authority to bind Bidder is attached.

END OF DOCUMENT
SECTION 03 45 00
ARCHITECTURAL PRECAST CONCRETE – ADDENDUM #2

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes the performance criteria, materials, production, and erection of architectural precast concrete for the entire project. The work performed under this section includes all labor, material, equipment, related services, and supervision required for the manufacture and erection of the architectural precast concrete work shown on the contract drawings.

B. This Section includes the following:

1. Architectural precast concrete pieces for the monument sign on the corner of 30th Avenue and Highway 90.

C. Related Sections include the following:

1. Division 3 Section Cast-in-Place Concrete.

1.2 DEFINITIONS

A. Design Reference Sample: Sample of approved architectural precast concrete color, finish and texture, pre-approved by Architect.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide architectural precast concrete units and connections capable of withstanding the following design loads within limits and under conditions indicated:

1. Dead Loads: weight and all materials that bear on them.
2. Live Loads: see Drawings.
3. Wind Loads: see Drawings.
5. Seismic Loads: see Drawings.
6. Project Specific Loads: see Drawings
7. Design framing system and connections to maintain clearances at openings, to allow for fabrication and construction tolerances, to accommodate live load deflection, shrinkage and creep of primary building structure, and other building movements as indicated on Structural Drawings.
8. Thermal Movements: Provide for in-plane thermal movements resulting from annual ambient temperature changes of 80 deg F. Use other values, greater or smaller, whenever justified by climatic conditions at the project site.
1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Retain quality control records and certificates of compliance for 5 years or period of warranty, whichever is greater.

B. Design Mixes: For each concrete mix along with compressive strength and water-absorption tests.

C. Shop (Erection) Drawings: Detail fabrication and installation of architectural precast concrete columns. Indicate plans, elevations, dimensions, shapes and cross sections. Indicate aesthetic intent including joints, reveals, and extent and location of each surface finish.
   1. Indicate separate face and backup mix locations, and thicknesses.
   2. Indicate welded connections by AWS standard symbols. Detail loose and cast-in hardware, and connections.
   3. Indicate locations, tolerances and details of anchorage devices to be embedded in or attached to structure or other construction.
   4. Indicate locations, extent and treatment of dry joints if two-stage casting is proposed.
   5. Indicate plans, and/or elevations showing unit location, and sequence of erection for special conditions.
   6. Indicate location of each architectural precast concrete unit by same identification mark placed on unit.
   7. Indicate relationship of architectural precast concrete units to adjacent materials.

D. Design Modifications:
   1. If design modifications are necessary to meet the performance requirements and field conditions, submit design calculations and drawings. Do not adversely affect the appearance, durability or strength of units when modifying details or materials and maintain the general design concept.
   2. Comprehensive engineering design signed and sealed by the qualified professional engineer responsible for its preparation registered in the state of Mississippi. Show types, connections, and types of reinforcement, including special reinforcement. Coordinate the location, type, magnitude and direction of all imposed loadings from the precast system to the building structural frame with the Engineer of Record.

E. Samples: Design reference samples for initial verification of design intent, approximately 12 by 12 by 2 inches, representative of finishes, color, and textures of exposed surfaces of architectural precast concrete units.
   1. When back face of precast concrete unit is to be exposed, show samples of the workmanship, color, and texture of the backup concrete as well as the facing.

F. Welding Certificates: Copies of certificates for welding procedure specifications (WPS) and personnel.
G. Qualification Data: For firms and persons specified in “Quality Assurance” Article to demonstrate their capabilities and experience. Include list of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

1.5 QUALITY ASSURANCE

A. Erector Qualifications:

1. A precast concrete erector Qualified by the Precast/Prestressed Concrete Institute (PCI) prior to beginning work at the project site. Submit a current Certificate of Compliance furnished by PCI designating qualification in Category A (Architectural Systems).

B. Fabricator Qualifications: A firm that complies with the following requirements and is experienced in producing architectural precast concrete units similar to those indicated for this Project and with a record of successful in-service performance.

1. Manufacturer should have a minimum of 2 years of production experience in architectural precast concrete work comparable to that shown and specified, in not less than three projects of similar scope with the Architect determining the suitability of the experience.

2. Assumes responsibility for engineering architectural precast concrete units to comply with performance requirements. This responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.

3. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of architectural precast concrete that are similar to those indicated for this Project in material, design, and extent.

4. Participates in PCI’s Plant Certification program at the time of bidding and is designated a PCI-certified plant for the following:

   a. All exterior items: Group A, Category A1- Architectural Cladding and Load Bearing Units.

5. Has sufficient production capacity to produce required units without delaying the Work.

C. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction qualified according to ASTM C 1077 and ASTM E 329 to conduct the testing indicated, as documented according to ASTM E 548.
D. Design Standards: Comply with ACI 318 and the design recommendations of PCI MNL 120, "PCI Design Handbook – Precast and Prestressed Concrete," applicable to types of architectural precast concrete units indicated.

E. Quality-Control Standard: For manufacturing procedures and testing requirements, quality-control recommendations, and dimensional tolerances for types of units required, comply with PCI MNL 117, "Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products."


G. Mockup: After sample approval and before fabricating architectural precast concrete pieces, produce a minimum of one sample mockup, full size for review by Architect. Incorporate full scale details of architectural features, finishes, textures, and transitions in the sample panels.

1. Notify Architect in advance of dates and times when samples will be constructed.
2. Locate samples where indicated or, if not indicated, as directed by Architect.
3. Damage part of an exposed-face surface for each finish, color, and texture, and demonstrate adequacy of repair techniques proposed for repair of surface blemishes.
4. After acceptance of repair technique, maintain one sample panel at the manufacturer’s plant and one at the project site in an undisturbed condition as a standard for judging the completed Work.
5. Obtain Architect’s approval of sample columns before starting fabrication.
6. Demolish and remove sample panels when directed.

1.6 DELIVERY, STORAGE AND HANDLING

A. Store units with adequate dunnage and bracing and protect units to prevent contact with soil, staining, and to prevent cracking, distortion, warping or other physical damage.

B. Store units, unless otherwise specified, with non-staining, resilient supports.

C. Place stored units so identification marks are clearly visible, and product can be inspected.

D. Deliver all architectural precast concrete units to the project site in such quantities and at such times to assure compliance with the agreed project schedule and proper setting sequence so as to limit unloading units temporarily on the ground.

1. No units are to touch bare ground – supports are required at all times.

E. Handle and transport units in a position consistent with their shape and design in order to avoid excessive stresses which would cause cracking or damage.
F. Lift and support units only at designated points shown on the Shop Drawings.

G. Place non-staining resilient spacers of even thickness between each unit.

H. Support units during shipment on non-staining shock absorbing material.

1.7 SEQUENCING

A. Furnish loose connection hardware and anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, templates, instructions, and directions, as required, for installation.

PART 2 – PRODUCTS

2.1 FABRICATORS

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

1. Gate Precast Company
2. Jackson Precast, Inc.
3. Tindall Corporation
4. Equal as approved.

2.2 MOLD MATERIALS

A. Molds: Rigid, dimensionally stable, nonabsorptive material, warp and buckle free, that will provide continuous and true precast concrete surfaces within fabrication tolerances indicated; non-reactive with concrete and suitable for producing required finishes.

1. Mold-Release Agent: Commercially produced liquid-release agent that will not bond with, stain or adversely affect precast concrete surfaces and will not impair subsequent surface or joint treatments of precast concrete.

2. Molds shall be able to produce wall shapes as indicated on the Drawings with no revisions in design. This includes but is not limited to 90 degree turnback corners.

2.3 REINFORCING MATERIALS

A. Low-Alloy-Steel Reinforcing Bars: ASTM A 706, deformed.

B. Steel Bar Mats: ASTM A 184, assembled with clips, as follows:

C. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.


E. Supports: Suspend reinforcement from back of mold or use bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place according to PCI MNL 117.

2.4 PRESTRESSING TENDONS

A. Prestressing Strand: ASTM A 416/A 416M, Grade 270 (Grade 1860), uncoated, 7-wire, low-relaxation strand.

B. Un-bonded Post-Tension Strand: ASTM A 416 with corrosion inhibitor conforming to ASTM D1743, Grade 270 (Grade 1860), 7-wire, low-relaxation strand with polypropylene conduit sheath.

2.5 CONCRETE MATERIALS

A. Portland cement: ASTM C150, Type I or III.

1. For exterior surfaces exposed to view in finished columns, use **white Portland cement**, same type, brand, and mill source throughout the precast concrete production. Final color of finished columns to be selected by Architect.

B. Normal-Weight Aggregates: Except as modified by PCI MNL 117, ASTM C 33, with coarse aggregates complying with Class 5S. Provide and stockpile fine and coarse aggregates for each type of exposed finish from a single source (pit or quarry) for entire project.

C. Face-Mix Fine Aggregates: Selected, natural or manufactured sand of the same material as coarse aggregate, unless otherwise approved by Architect.

D. Coloring Admixture: ASTM C 979, synthetic or natural mineral-oxide pigments or colored water-reducing admixtures, temperature stable and non-fading. Color of admixture to be selected by Architect.

E. Water: Potable; free from deleterious material that may affect color stability, setting, or strength of concrete and complying with chemical limits of PCI MNL 117.

F. Water-Reducing Admixture: ASTM C 494, Type A.

G. Retarding Admixture: ASTM C 494, Type B.

H. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
I. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.

J. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494, Type G.

K. Plasticizing Admixture for Flowable Concrete: ASTM C 1017.

L. Admixtures containing calcium chloride or more than 0.15 percent chloride ions or other salts by weight of admixture are not permitted.

2.6 STEEL CONNECTION MATERIALS

A. Carbon-Steel Shapes and Plates: ASTM A 36 except silicon (Si) content in the range of 0 to 0.03% or 0.15 to 0.25% for materials to be galvanized. Steel with chemistry conforming to the formula \( Si + 2.5P < 0.09 \) is also acceptable.

B. Carbon-Steel Headed Studs: ASTM A 108, Grades 1018 through 1020, cold finished and bearing the minimum mechanical properties for studs as indicated under MNL 117, Table 3.2.3.; AWS D1.1, Type A or B, with arc shields.

C. Carbon-Steel Plate: ASTM A 283.

D. Malleable Iron Castings: ASTM A 47. Grade 32510 or 35028.

E. Carbon-Steel Castings: ASTM A 27, Grade U-60-30 (Grade 415-205).

F. High-Strength, Low-Alloy Structural Steel: ASTM A 572 except silicon (Si) content in the range of 0 to 0.03% or 0.15 to 0.25% for materials to be galvanized. Steel with chemistry conforming to the formula \( Si + 2.5P < 0.09 \) is also acceptable.

G. Carbon-Steel Structural Tubing: ASTM A 500, Grade B.

H. Wrought Carbon-Steel Bars: ASTM A 675, Grade 65 (Grade 450).

I. Deformed-Steel Wire or Bar Anchors: ASTM A 496 or ASTM A 706.

J. Carbon-Steel Bolts and Studs: ASTM A 307, Grade A carbon-steel, hex-head bolts and studs; carbon-steel nuts (ASTM A563, Grade A); and flat, unhardened steel washers (ASTM F844).

K. High-Strength Bolts and Nuts: ASTM A 325 or ASTM A490, Type 1, heavy hex steel structural bolts, heavy hex carbon-steel nuts, (ASTM A563) and hardened carbon-steel washers (ASTM F436).

L. Finish: For exterior steel items and items indicated for galvanizing, apply zinc coating by hot-dip process according to ASTM A 123, after fabrication, or ASTM A 153, as applicable.
1. Galvanizing Repair Paint: High-zinc-dust-content paint with dry film containing not less than 94 percent zinc dust by weight, and complying with DOD-P-21035A or SSPC-Paint 20.

M. Welding Electrodes: Comply with AWS standards.

2.7 BEARING PADS AND OTHER ACCESSORIES

A. Provide bearing pads for architectural precast concrete units to suit Project. Fabricator shall coordinate selection with Architect prior to fabrication.

B. Accessories: Provide clips, hangers, plastic or steel shims, and other accessories required to install architectural precast concrete units.

2.8 CONCRETE MIXES

A. Prepare design mixes to match Architect’s sample for each type of concrete required.

B. Design mixes may be prepared by a qualified independent testing agency or by qualified precast plant personnel at architectural precast concrete fabricator’s option.

C. Limit water-soluble chloride ions to the maximum percentage by weight of cement permitted by ACI 318 or PCI MNL 117 when tested in accordance with ASTM C1218.

D. Normal-Weight Concrete Face and backup mixes: Proportion mixes by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on project, to provide normal-weight concrete with the following properties:

   1. Compressive Strength (28 Days): 5000 psi (34.5 MPa).
   2. Maximum Water-Cementitious Materials Ratio: 0.45.

E. Water Absorption: 6 percent by weight or 14 percent by volume, tested according to PCI MNL 117.

F. Add air-entraining admixture at manufacturer’s prescribed rate to result in concrete at point of placement having an air content complying with PCI MNL 117.

G. When included in design mixes, add other admixtures to concrete mixes according to manufacturer’s written instructions.

2.9 MOLD FABRICATION

A. Molds: Accurately construct molds, mortar tight, of sufficient strength to withstand pressures due to concrete-placement and vibration operations and temperature changes and for prestressing and detensioning operations. Coat contact surfaces of molds with release agent before reinforcement is placed. Avoid contamination of reinforcement and prestressing tendons by release agent.
B. Maintain molds to provide completed architectural precast concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances specified.

1. Form joints are not permitted on faces exposed to view in the finished work.
2. Edge and Corner Treatment: as shown on Drawings.

2.10 FABRICATION

A. Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware: Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware and secure in place during precasting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.

1. Weld headed studs and deformed bar anchors used for anchorage according to AWS D1.1 and AWS C5.4, “Recommended Practices for Stud Welding."

B. Furnish loose hardware items including steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes for securing architectural precast concrete units to supporting and adjacent construction.

C. Cast-in reglets, slots, holes, and other accessories in architectural precast concrete units as indicated on contract drawing.

D. Cast-in openings larger than 10 inches in any dimension. Do not drill or cut openings or prestressing strand without approval of Architect.

E. Reinforcement: Comply with recommendations in PCI MNL 117 for fabrication, placing, and supporting reinforcement. PCI MNL 116 is acceptable for Group C components.

1. Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy the bond with concrete. When damage to epoxy coated reinforcing exceeds limits specified ASTM A775 repair with patching material compatible with coating material and epoxy coat bar ends after cutting.
2. Accurately position, support, and secure reinforcement against displacement during concrete-placement and consolidation operations. Completely conceal support devices to prevent exposure on finished surfaces.
3. Place reinforcing steel and prestressing strand to maintain at least 3/4-inch minimum concrete cover. Increase cover requirements for reinforcing steel to 1-1/2 inches when units are exposed to corrosive environment or severe exposure conditions. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Direct wire tie ends away from finished, exposed concrete surfaces.
4. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh spacing and wire tie laps, where required by design. Offset laps of adjoining widths to prevent continuous laps in either direction.
F. Reinforce architectural precast concrete units to resist handling, transportation, and erection stresses.

G. Prestress tendons for architectural precast concrete units by either pretensioning or post-tensioning methods. Comply with PCI MNL 117. PCI MNL 116 is acceptable for Group C components.

1. Delay detensioning or post-tensioning of prestressed architectural precast concrete units until concrete has reached its indicated minimum design release compressive strength as established by test cylinders cured under the same conditions as concrete member.
2. Detension pretensioned tendons either by gradually releasing tensioning jacks or by heat-cutting tendons, using a sequence and pattern to prevent shock or unbalanced loading.
3. If concrete has been heat cured, detension while concrete is still warm and moist to avoid dimensional changes that may cause cracking or undesirable stresses.
4. Protect strand ends and anchorages with bituminous, zinc-rich or epoxy paint to avoid corrosion and possible rust spots.

H. Mix concrete according to PCI MNL 117 and requirements in this Section. After concrete batching, no additional water may be added.

I. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units. Comply with requirements in PCI MNL 117 for measuring, mixing, transporting, and placing concrete.

J. Thoroughly consolidate placed concrete by internal and/or external vibration without dislocating or damaging reinforcement and built-in items, and minimize pour lines, honeycombing or entrapped air on surfaces. Use equipment and procedures complying with PCI MNL 117.

1. Place self-consolidating concrete without vibration in accordance with PCI Interim Guidelines for the Use of Self-Consolidating Concrete.

K. Comply with ACI 306.1 procedures for cold-weather concrete placement.

L. Comply with ACI 305R recommendations for hot-weather concrete placement.

M. Identify pickup points of architectural precast concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint or permanently mark casting date on each architectural precast concrete unit on a surface that will not show in finished structure.

N. Cure concrete, according to requirements in PCI MNL 117, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture. Cure units until the compressive strength is high enough to ensure that stripping does not have an effect on the performance or appearance of the final product.
O. Repair damaged architectural precast concrete units to meet acceptability requirements of PCI MNL 117.

2.11 FABRICATION TOLERANCES

A. Fabricate architectural precast concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished unit complies with the following product tolerances (PCI MNL 117).

1. Overall Height and Width of Units, Measured at the Face Exposed to View: As follows:

   a. 10 feet or under, Plus or Minus 1/8 inch.
   b. 10 to 20 feet, Plus 1/8 inch, Minus 3/16 inch.
   c. 20 to 40 feet, Plus or Minus 1/4 inch.
   d. Each additional 10 feet, Plus or Minus 1/16 inch.

2. Overall Height and Width of Units, Measured at the Face Not Exposed to View: As follows:

   a. 10 feet or under, Plus or Minus 1/4 inch.
   b. 10 to 20 feet, Plus ¼ inch, Minus 3/8 inch.
   c. 20 to 40 feet, Plus or Minus 3/8 inch.
   d. Each additional 10 feet, Plus or Minus 1/8 inch.

3. Total Thickness or Flange Thickness: Plus ¼ inch, Minus 1/8 inch.

4. Variation from Square or Designated Skew (Difference in Length of the Two Diagonal Measurements): Plus or Minus 1/8 inch per 72 inches or 1/2 inch total, whichever is greater.

5. Length and Width of Block-outs and Openings within One Unit: Plus or Minus 1/4 inch.

6. Haunch Bearing Surface Deviation from Specified Plane: Plus or Minus 1/8 inch.


8. Bowing: Plus or Minus L/360, maximum 1 inch.

9. Local Smoothness: 1/4 inch per 10 feet.

10. Warping: 1/16 inch per 12 inches of distance from the nearest adjacent corner.

11. Tipping and flushness of Plates: Plus or Minus 1/4 inch.


2.12 FINISHES

A. Unit faces shall be free of joint marks, grain, and other obvious defects. Corners, including false joints shall be uniform, straight and sharp. Finish exposed-face surfaces of architectural precast concrete units to match approved sample units. (No exposed aggregate, surface air voids, sand streaks, honeycombs, or un-uniform color or texture).

B. All exposed finish surfaces of architectural precast concrete units to match. Final color of precast columns to be determined by Architect.
2.13 **SOURCE QUALITY CONTROL**

A. Quality-Control Testing: Test and inspect precast concrete according to PCI MNL 117 requirements. If using self-consolidating concrete also test and inspect according to PCI Interim Guidelines for the Use of Self-Consolidating Concrete.

B. Strength of precast concrete units will be considered deficient if units fail to comply with ACI 318 requirements for concrete strength.

C. Testing: If there is evidence that the concrete strength of precast concrete units may be deficient or may not comply with ACI 318 requirements, Precaster will employ an independent testing agency to obtain, prepare, and test cores drilled from hardened concrete to determine compressive strength according to ASTM C 42.

   1. A minimum of three representative cores will be taken from units of suspect strength, from locations directed by Architect.
   2. Cores will be tested in an air-dry condition.
   3. Strength of concrete for each series of 3 cores will be considered satisfactory if the average compressive strength is equal to at least 85 percent of the 28-day design compressive strength and no single core is less than 75 percent of the 28-day design compressive strength.
   4. Test results will be made in writing on the same day that tests are performed, with copies to Architect, Contractor, and precast concrete fabricator. Test reports will include the following:
      a. Project identification name and number.
      b. Date when tests were performed.
      c. Name of precast concrete fabricator.
      d. Name of concrete testing agency.
      e. Identification letter, name, and type of precast concrete units or units represented by core tests; design compressive strength; type of break; compressive strength at breaks, corrected for length-diameter ratio; and direction of applied load to core in relation to horizontal plane of concrete as placed.

D. Patching: If core test results are satisfactory and precast concrete units comply with requirements, clean and dampen core holes and solidly fill with precast concrete mix that has no coarse aggregate, and finish to match adjacent precast concrete surfaces.

E. Defective Work: Architectural precast concrete units that do not comply with acceptability requirements in PCI MNL 117, including concrete strength, manufacturing tolerances, and color and texture range are unacceptable. Chipped, spalled or cracked columns may be repaired, if repaired units match the visual mock-up.

   1. **The Architect reserves the right to reject any precast unit if it does not match the accepted samples and visual mock-up. Replace unacceptable columns with precast concrete columns that comply with requirements.**
PART 3 – EXECUTION

3.1 PREPARATION

A. Deliver anchorage devices that are embedded in or attached to the building structural frame or foundation before start of such work. Provide locations, setting diagrams, and templates for the proper installation of each anchorage device.

3.2 EXAMINATION

A. Examine supporting structural frame or foundation and conditions for compliance with requirements for installation tolerances, true and level bearing surfaces, and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

B. Do not install precast concrete units until supporting cast-in-place concrete has attained minimum allowable design compressive strength or supporting steel or other structure is structurally ready to receive loads from precast.

3.3 ERECTION

A. Install loose clips, hangers, bearing pads and other accessories required for connecting architectural precast concrete units to supporting members and backup materials.

B. Erect architectural precast concrete level, plumb and square within the specified allowable tolerances. Provide temporary supports and bracing as required to maintain position, stability, and alignment of units until permanent connections are completed.

1. Install temporary steel or plastic spacing shims or bearing pads as precast concrete units are being erected. Tack weld steel shims to each other to prevent shims from separating.

2. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.

3. Remove projecting lifting devices and use sand-cement grout to fill voids within recessed lifting devices flush with surface of adjacent precast concrete surfaces when recess is exposed.

4. Unless otherwise shown provide for uniform joint widths of 3/4 inch.

C. Connect architectural precast concrete units in position by bolting, welding, grouting, or as otherwise indicated on approved Erection Drawings. Remove temporary shims, wedges, and spacers as soon as practical after connecting and/or grouting are completed.

D. Welding: Comply with applicable AWS D1.1 and AWS D1.4 requirements for welding, welding electrodes, appearance, quality of welds, and methods used in correcting welding work.
1. Protect architectural precast concrete units and bearing pads from damage by field welding or cutting operations and provide noncombustible shields as required.
2. Welds not specified shall be continuous fillet welds, using not less than the minimum fillet as specified by AWS.
3. Clean weld affected metal surfaces with chipping hammer followed by brushing then apply a minimum 0.004 inch thick coat of galvanized repair paint to galvanized surfaces in conformance with ASTM A780.
4. Visually inspect all welds critical to precast connections. Visually check all welds for completion and remove, reweld or repair all defective welds, if services of AWS-certified welding inspector are not furnished by Owner.

E. At bolted connections, use lock washers, tack welding, or other acceptable means to prevent loosening of nuts after final adjustment.

1. Where slotted connections are used, verify bolt position and tightness. For sliding connections, properly secure bolt but allow bolt to move within connection slot. For friction connection apply specified bolt torque and check 25 percent of bolts at random by calibrated torque wrench.

3.4 ERECTION TOLERANCES

A. Erect architectural precast concrete units level, plumb, square, and true, and in alignment without exceeding the following noncumulative erection tolerances (PCI MNL 117).

1. Plan Location from Building Grid Datum: Plus or Minus 1/2 inch.
2. Plan Location from Centerline of Steel: Plus or Minus 1/2 inch.
3. Support Elevation from Nominal Support Elevation: As follows:
   a. Maximum Low: 1/2 inch.
   b. Maximum High: 1/4 inch.
4. Maximum Plumb Variation over the Lesser of Height of Structure or 100 Feet: 1 inch.
5. Plumb in Any 10 Feet of Element Height: 1/4 inch.
7. Joint width (Govern over Joint Taper): Plus or Minus 1/4 inch.
11. Differential Bowing or Camber, as Erected, between Adjacent Members of Same Design: 1/4 inch.
12. Opening Height between Spandrels: Plus or Minus 1/4 inch.

3.5 FIELD QUALITY CONTROL

A. Contractor shall engage a qualified independent testing and inspecting agency to perform field tests and inspections.
B. Field welds will be subject to visual inspections and non-destructive testing in accordance with ASTM E165 or ASTM E709.

C. Testing agency will report test results promptly and in writing to Architect.

D. Repair or remove and replace work that does not comply with specified requirements.

E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of corrected work with specified requirements.

3.6 REPAIRS

A. Repairs will be permitted provided structural adequacy of units and appearance are not impaired.

B. Repair damaged units to meet acceptability requirements of PCI MNL 117.

C. Mix patching materials and repair units so cured patches blend with color, texture, and uniformity of adjacent exposed surfaces and show no apparent line of demarcation between original and repaired work, when viewed in typical daylight illumination from a distance of 20 feet.

D. Prepare and repair damaged galvanized coatings with galvanizing repair paint according to ASTM A780.

E. Remove and replace damaged architectural precast concrete units when repairs do not meet requirements.

3.7 CLEANING

A. Clean all surfaces of precast concrete to be exposed to view prior to shipping.

B. Clean mortar, plaster, fireproofing, weld slag, and any other deleterious material from concrete surfaces and adjacent materials immediately.

C. Clean exposed surfaces of precast concrete units after erection and completion of joint treatment to remove weld marks, other markings, dirt, and stains.

1. Perform cleaning procedures, if necessary, according to precast concrete fabricator's recommendations. Clean soiled precast concrete surfaces with detergent and water, using stiff fiber brushes and sponges, and rinse with clean water. Protect other work from staining or damage due to cleaning operations.

2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes or damage adjacent materials.

END OF SECTION
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PART 1 – GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Textured finish system for vertical above grade exterior concrete at the monument sign on the corner of 30th Avenue and Highway 90.

B. Related Sections include the following:

1. Division 3 Section “Cast-in Place Concrete”

1.2 SUBMITTALS

A. Product Data for each product specified.

B. Manufacturer’s standard warranty.

C. Shop drawings: substrate joints, cracks, penetrations, corners, terminations, and tie-ins with adjoining construction, interfaces with separate materials that form part of the assembly.

1.3 QUALITY ASSURANCE

A. Manufacturer’s Qualifications: The textured finish system manufacturer shall be a company with at least ten years of experience in manufacturing specialty finishes and regularly engaged in the manufacture and marketing of products specified herein.

B. Installer’s Qualifications: The contractor shall be qualified to perform the work specified by reason of experience. Contractor shall have at least 5 years of experience in commercial textured finish application, and shall have completed at least 3 projects of similar size and complexity.

C. Adhesion Testing: Testing shall be conducted and observed by the Architect and Owner to verify wall assembly performance, and to verify adhesion to prepared substrates before and during construction. Where substrate is too dense or non-absorbent for adhesion, or where a bond inhibiting material is on the surface, or in any case where adhesion is in question, consult the Architect for direction.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver all materials in their original sealed containers bearing manufacturer’s name and identification of product.
B. Store products in a dry area with temperature maintained between 50 and 85 degrees F. Protect from direct sunlight. Protect from freezing. Protect from extreme heat (>90 degrees F).

C. Protect and store accessory and auxiliary products in accordance with manufacturer’s written instructions.

1.5 WARRANTY

A. Provide manufacturer’s standard limited warranty.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Provide stucco, primer and finish from single source manufacturer.

1. Sto Corp.

2. Equal as approved

2.2 MATERIALS

A. Stolit Lotusan – high performance, factory blended decorative and protective textured wall finish with integral color and Sto Lotus-Effect® technology.

1. Color as selected by Architect.

B. Primer: Sto Hot Prime – acrylic based primer/sealer for highly alkaline (pH greater than or equal to 10) surfaces, complies with SCAQMD Rule 1113 for primers.

C. Base Coat: Sto BTS Plus – one component polymer modified portland cement high build base coat material (for leveling up to 1/16” in one pass).

D. Surface Reinforcement: Sto Mesh – nominal 4.5 oz/yd2 glass fiber reinforcing mesh treated for compatibility with Sto materials.

E. Finish texture and color shall be as selected by the Architect; but generally will need to match the finish texture of the precast concrete columns.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Inspect surfaces for:

1. Contamination—algae, chalkiness, dirt, dust, efflorescence, form oil, fungus, grease, laitance, mildew or other foreign substances.

2. Surface absorption and chalkiness.
3. Cracks—measure crack width and record location of cracks.

4. Damage and deterioration.

5. Moisture damage—record any areas of moisture damage.

B. Report deviations from the requirements of project specifications or other conditions that might adversely affect the stucco installation. Start of work is acceptance of conditions.

3.2 SURFACE PREPARATION

A. All substrate surfaces shall be straight and true to within 1/8 inch in 10 ft.

B. Concrete: must be fully cured and free of voids, cracks, weak surface conditions such as laitance, and any other surface defects, and free of surface contamination such as grease, oil, wax, dust, dirt, salts, algae, mildew, pollen or any other surface contamination that could inhibit adhesion. Surface must be absorbent, slightly pitted or scarified.

3.3 INSTALLATION

A. Mixing: Mix Sto products in accordance with published literature. Refer to applicable Product Bulletins for specific information on use, handling, application, precautions, and limitations of specific products.

B. Application:

1. Install a skim coat of the base coat material to the prepared wall surface by trowel to fill and level the surface and allow to dry (1/16” in each pass).

2. Crack Defense Reinforcement Layer: Install nominal 1/8 inch base coat by trowel to the wall surface. Work horizontally or vertically in strips of 38 inches, and immediately embed the mesh into the wet base coat by troweling from the center to the edges of the mesh. Overlap mesh not less than 2-½ inches at mesh seams and feather at seams. Double wrap all inside and outside corners with minimum 8-inch overlap in each direction. Avoid wrinkles in the mesh. The mesh must be fully embedded so that no mesh color shows through. Re-skim with additional base coat if mesh color is visible. Allow base coat to dry before applying primer.

3. Apply appropriate primer by brush, roller or spray to the base coat.

4. When the primer application is dry apply the textured finish by trowel. Apply finish in a continuous application, and work to a wet edge. Float the finish to achieve the desired texture.

5. Do not install base coat, reinforcing mesh or finish coat over joint sealants, cold joints, control joints, or accessories.

3.4 PROTECTION
A. Provide protection of installed materials from water infiltration into or behind them during and after construction.

B. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until they are fully dry.

C. Seal penetrations through the finished surface with backer rod and sealant or other appropriate means.

END OF SECTION