PROJECT MANUAL

FOR

BRANDYWINE SCHOOL DISTRICT

CLAYMONT ELEMENTARY SCHOOL  RENOVATION

BRANDYWINE SCHOOL DISTRICT  
1311 BRANDYWINE BOULEVARD
WILMINGTON, DELAWARE 19809  

ABHA ARCHITECTS  
1621 N. LINCOLN STREET
WILMINGTON, DELAWARE 19806
(302) 658-6426  FAX (302) 658-8431

VANDEMARK & LYNCH  
4305 MILLER ROAD
WILMINGTON, DELAWARE  
(302) 764-7635  FAX (302) 764-4170

BAKER INGRAM & ASSOCIATES  
366 E. MAIN STREET
NEWARK, DELAWARE 19711
(302) 456-1757  FAX (302) 456-1759

FURLOW ASSOCIATES, INC.  
1206 SOCIETY DRIVE
CLAYMONT, DELAWARE 19703
(302) 798-3515  FAX (302) 798-9799

CORSI ASSOCIATES  
1489 BALTIMORE PIKE
SPRINGFIELD, PENNSYLVANIA 19064
(610) 541-0822  FAX (610) 541-0824

REVISION  
133 GRAPE STREET
PHILADELPHIA, PENNSYLVANIA 19064
(215) 482-1133

WHITING-TURNER CONTRACTING COMPANY  
131 CONTINENTAL DRIVE, SUITE 404
NEWARK, DELAWARE 19713
(302) 292-0676

ABHA PROJECT NUMBER: 1630
DATE: March 25, 2019

BID PAC B
MASONRY RE-BID
Volume 1 of 2
Divisions 0 - 1
# TABLE OF CONTENTS

## VOLUME 1

### DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00 01 15</td>
<td>DRAWING LIST</td>
</tr>
<tr>
<td>00 11 00</td>
<td>ADVERTISEMENT FOR BIDS</td>
</tr>
<tr>
<td>00 11 10</td>
<td>INVITATION TO BID</td>
</tr>
<tr>
<td>00 21 13</td>
<td>INSTRUCTIONS TO BIDDERS</td>
</tr>
<tr>
<td>00 40 00</td>
<td>BID FORM</td>
</tr>
<tr>
<td>00 43 00</td>
<td>BID BOND</td>
</tr>
<tr>
<td>00 43 20</td>
<td>REQUIREMENTS FOR APPROVAL FOR LISTING AS SUBCONTRACTOR</td>
</tr>
<tr>
<td>00 43 50</td>
<td>LIST OF SUBCONTRACTORS OR MATERIAL SUPPLIERS</td>
</tr>
<tr>
<td>00 52 00</td>
<td>STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR</td>
</tr>
<tr>
<td>00 54 13</td>
<td>SUPPLEMENT TO AGREEMENT BETWEEN OWNER AND CONTRACTOR</td>
</tr>
<tr>
<td>00 60 00</td>
<td>PERFORMANCE BOND</td>
</tr>
<tr>
<td>00 61 00</td>
<td>PAYMENT BOND</td>
</tr>
<tr>
<td>00 62 00</td>
<td>APPLICATION &amp; CERTIFICATE FOR PAYMENT</td>
</tr>
<tr>
<td>00 62 50</td>
<td>SUMMARY OF CONTRACTORS APPLICATION FOR PAYMENT</td>
</tr>
<tr>
<td>00 70 00</td>
<td>GENERAL CONDITIONS TO THE CONTRACT FOR CONSTRUCTION</td>
</tr>
<tr>
<td>00 73 00</td>
<td>SUPPLEMENTARY GENERAL CONDITIONS TO THE CONTRACT</td>
</tr>
<tr>
<td>00 73 50</td>
<td>GENERAL REQUIREMENTS</td>
</tr>
<tr>
<td>00 74 00</td>
<td>DELAWARE PREVAILING WAGE RATES &amp; REPORTING FORM</td>
</tr>
</tbody>
</table>

### DIVISION 01 - GENERAL REQUIREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 12 00</td>
<td>SUMMARY OF CONTRACTS / SCOPES OF WORK</td>
</tr>
<tr>
<td>01 12 00-01</td>
<td>GENERAL SCOPE OF WORK</td>
</tr>
<tr>
<td>01 23 00</td>
<td>ALTERNATES</td>
</tr>
<tr>
<td>01 25 00</td>
<td>CONTRACT MODIFICATION PROCEDURES</td>
</tr>
<tr>
<td>01 26 50</td>
<td>CHANGE ORDER REQUEST SUBMISSION FORMAT</td>
</tr>
<tr>
<td>01 29 00</td>
<td>PAYMENT PROCEDURE</td>
</tr>
<tr>
<td>01 31 00</td>
<td>PROJECT MANAGEMENT AND COORDINATION</td>
</tr>
<tr>
<td>01 31 10</td>
<td>PROJECT COORDINATION</td>
</tr>
<tr>
<td>01 32 00</td>
<td>CONSTRUCTION PROGRESS DOCUMENTATION</td>
</tr>
<tr>
<td>01 32 10</td>
<td>CONSTRUCTION SCHEDULE</td>
</tr>
<tr>
<td>01 35 00</td>
<td>SPECIAL PROJECT PROCEDURES</td>
</tr>
<tr>
<td>01 35 20</td>
<td>SAFETY REQUIREMENTS AND LOSS CONTROL</td>
</tr>
<tr>
<td>01 50 00</td>
<td>TEMPORARY FACILITIES AND CONTROLS</td>
</tr>
<tr>
<td>01 74 19</td>
<td>CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL</td>
</tr>
<tr>
<td>01 77 00</td>
<td>CLOSEOUT PROCEDURES</td>
</tr>
<tr>
<td>01 77 50</td>
<td>CLOSEOUT REQUIREMENTS</td>
</tr>
<tr>
<td>01 81 13</td>
<td>SUSTAINABLE DESIGN REQUIREMENTS</td>
</tr>
<tr>
<td>01 81 14</td>
<td>VOC LIMITS</td>
</tr>
<tr>
<td>01 81 19</td>
<td>INDOOR AIR QUALITY REQUIREMENTS</td>
</tr>
<tr>
<td>01 91 10</td>
<td>SPECIFIC COMMISSIONING PLAN - CONTRACT DOCUMENTS PLAN</td>
</tr>
</tbody>
</table>
VOLUME 2

DIVISION 02 - EXISTING CONDITIONS

02 41 00 DEMOLITION

DIVISION 03 - CONCRETE

03 20 00 CONCRETE REINFORCING
03 30 00 CAST-IN-PLACE CONCRETE

DIVISION 04 - MASONRY

04 05 11 MORTAR AND MASONRY GROUT
04 20 00 UNIT MASONRY
04 72 00 CAST STONE MASONRY

DIVISION 05 - METALS

05 12 00 STRUCTURAL STEEL FRAMING
05 40 00 COLD-FORMED METAL FRAMING
05 50 00 METAL FABRICATIONS
05 51 00 METAL STAIRS
05 52 13 PIPE AND TUBE RAILINGS
05 75 00 DECORATIVE FORMED METAL

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

06 10 00 ROUGH CARPENTRY
06 20 00 FINISH CARPENTRY

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

07 11 13 BITUMINOUS DAMPPROOFING
07 13 00 SHEET WATERPROOFING
07 21 00 THERMAL INSULATION
07 21 29 SPRAYED INSULATION
07 25 00 WEATHER BARRIERS
07 26 17 UNDER-SLAB VAPOR BARRIER/RETARDER
07 26 40 SPRAY POLYURETHANE FOAM INSULATING AIR BARRIER
07 42 13 METAL WALL PANELS
07 42 33 PHENOLIC WALL PANELS
07 53 00 ELASTOMERIC MEMBRANE ROOFING
07 54 19 PVC THERMOPLASTIC SINGLE-PLY ROOFING
07 62 00 SHEET METAL FLASHING AND TRIM
07 71 00 ROOF SPECIALTIES
07 72 00 ROOF ACCESSORIES
07 81 00 APPLIED FIREPROOFING
07 81 23 INTUMESCENT MASTIC FIREPROOFING
07 84 00 FIRESTOPPING
<table>
<thead>
<tr>
<th>Division</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>07 92 00</td>
<td>JOINT SEALANTS</td>
</tr>
<tr>
<td>07 95 13</td>
<td>EXPANSION JOINT COVER ASSEMBLIES</td>
</tr>
</tbody>
</table>

**DIVISION 08 - OPENINGS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 11 13</td>
<td>HOLLOW METAL DOORS AND FRAMES</td>
</tr>
<tr>
<td>08 14 16</td>
<td>FLUSH WOOD DOORS</td>
</tr>
<tr>
<td>08 17 00</td>
<td>INTEGRATED DOOR OPENING ASSEMBLY</td>
</tr>
<tr>
<td>08 36 13</td>
<td>SECTIONAL DOORS</td>
</tr>
<tr>
<td>08 43 13</td>
<td>ALUMINUM FRAMED STOREFRONTS</td>
</tr>
<tr>
<td>08 44 13</td>
<td>GLAZED ALUMINUM CURTAIN WALLS</td>
</tr>
<tr>
<td>08 51 13</td>
<td>ALUMINUM WINDOWS</td>
</tr>
<tr>
<td>08 62 50</td>
<td>TUBULAR DAYLIGHTING DEVICES</td>
</tr>
<tr>
<td>08 70 00</td>
<td>DOOR HARDWARE SCHEDULE</td>
</tr>
<tr>
<td>08 71 00</td>
<td>DOOR HARDWARE</td>
</tr>
<tr>
<td>08 80 00</td>
<td>GLAZING</td>
</tr>
</tbody>
</table>

**DIVISION 09 - FINISHES**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>09 05 61</td>
<td>COMMON WORK RESULTS FOR FLOORING PREPARATION</td>
</tr>
<tr>
<td>09 21 16</td>
<td>GYPSUM BOARD ASSEMBLIES</td>
</tr>
<tr>
<td>09 30 00</td>
<td>TILING</td>
</tr>
<tr>
<td>09 51 00</td>
<td>ACOUSTICAL CEILINGS</td>
</tr>
<tr>
<td>09 52 00</td>
<td>SPECIALTY CEILING SYSTEMS</td>
</tr>
<tr>
<td>09 54 23</td>
<td>LINEAR METAL CEILINGS</td>
</tr>
<tr>
<td>09 65 00</td>
<td>RESILIENT FLOORING</td>
</tr>
<tr>
<td>09 66 16</td>
<td>PRECAST CEMENT TERRAZZO TREADS AND LANDINGS</td>
</tr>
<tr>
<td>09 66 23</td>
<td>EPOXY-RESIN TERRAZZO FLOORING</td>
</tr>
<tr>
<td>09 68 13</td>
<td>TILE CARPETING</td>
</tr>
<tr>
<td>09 68 16</td>
<td>SHEET CARPETING</td>
</tr>
<tr>
<td>09 72 00</td>
<td>WALL COVERINGS</td>
</tr>
<tr>
<td>09 81 00</td>
<td>ACOUSTICAL INSULATION</td>
</tr>
<tr>
<td>09 84 00</td>
<td>ACOUSTIC ROOM COMPONENTS</td>
</tr>
<tr>
<td>09 91 13</td>
<td>EXTERIOR PAINTING</td>
</tr>
<tr>
<td>09 91 23</td>
<td>INTERIOR PAINTING</td>
</tr>
<tr>
<td>09 93 00</td>
<td>REFINISHING WOOD FLOORING</td>
</tr>
</tbody>
</table>

**DIVISION 10 - SPECIALTIES**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 11 01</td>
<td>VISUAL DISPLAYBoARDS</td>
</tr>
<tr>
<td>10 21 13</td>
<td>PLASTIC TOILET COMPARTMENTS</td>
</tr>
<tr>
<td>10 22 39</td>
<td>FOLDING PANEL PARTITIONS</td>
</tr>
<tr>
<td>10 22 41</td>
<td>OPERABLE GLASS PARTITIONS</td>
</tr>
<tr>
<td>10 26 00</td>
<td>WALL AND DOOR PROTECTION</td>
</tr>
<tr>
<td>10 28 00</td>
<td>TOILET, BATH, AND LAUNDRY ACCESSORIES</td>
</tr>
<tr>
<td>10 44 00</td>
<td>FIRE PROTECTION SPECIALTIES</td>
</tr>
<tr>
<td>10 51 00</td>
<td>LOCKERS</td>
</tr>
<tr>
<td>10 82 10</td>
<td>ALUMINUM EQUIPMENT SCREEN</td>
</tr>
</tbody>
</table>
## DIVISION 11 - EQUIPMENT

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 40 00</td>
<td>FOODSERVICE EQUIPMENT</td>
</tr>
<tr>
<td>11 52 13</td>
<td>PROJECTION SCREENS</td>
</tr>
<tr>
<td>11 66 23</td>
<td>GYMNASIUM EQUIPMENT</td>
</tr>
</tbody>
</table>

## DIVISION 12 - FURNISHINGS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 34 00</td>
<td>LAMINATE CLAD CASEWORK</td>
</tr>
<tr>
<td>12 36 00</td>
<td>COUNTERTOPS, BACKSPLASHES, AND WINDOW STOOLS</td>
</tr>
<tr>
<td>12 61 13</td>
<td>FIXED AUDIENCE SEATING</td>
</tr>
<tr>
<td>12 66 13</td>
<td>TELESCOPING BLEACHERS</td>
</tr>
</tbody>
</table>

## DIVISION 14 – CONVEYING EQUIPMENT

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 21 00</td>
<td>ELECTRIC TRACTION ELEVATORS</td>
</tr>
</tbody>
</table>

## DIVISION 21 - FIRE SUPPRESSION

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 00 00</td>
<td>FIRE SUPPRESSION</td>
</tr>
<tr>
<td>21 13 00</td>
<td>FIRE SUPPRESSION SPRINKLER SYSTEMS</td>
</tr>
</tbody>
</table>

## DIVISION 22 - PLUMBING

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>22 00 00</td>
<td>PLUMBING</td>
</tr>
<tr>
<td>22 05 00</td>
<td>COMMON WORK RESULTS FOR PLUMBING</td>
</tr>
<tr>
<td>22 05 93</td>
<td>TESTING – PLUMBING</td>
</tr>
<tr>
<td>22 05 94</td>
<td>BALANCING - PLUMBING</td>
</tr>
<tr>
<td>22 07 00</td>
<td>PLUMBING INSULATION</td>
</tr>
<tr>
<td>22 10 00</td>
<td>PLUMBING PIPING</td>
</tr>
<tr>
<td>22 13 00</td>
<td>FACILITY SANITARY SEWERAGE</td>
</tr>
<tr>
<td>22 30 00</td>
<td>PLUMBING EQUIPMENT</td>
</tr>
<tr>
<td>22 42 00</td>
<td>COMMERCIAL PLUMBING FIXTURES</td>
</tr>
</tbody>
</table>

## DIVISION 23 - HVAC

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>23 00 00</td>
<td>HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)</td>
</tr>
<tr>
<td>23 05 00</td>
<td>COMMON WORK RESULTS FOR HVAC</td>
</tr>
<tr>
<td>23 05 23</td>
<td>GENERAL DUTY VALVES FOR HVAC PIPING</td>
</tr>
<tr>
<td>23 05 48</td>
<td>VIBRATION AND SEISMIC CONTROLS FOR HVAC PIPING AND EQUIPMENT</td>
</tr>
<tr>
<td>23 05 93</td>
<td>TESTING, ADJUSTING, &amp; BALANCING FOR HVAC</td>
</tr>
<tr>
<td>23 07 00</td>
<td>HVAC INSULATION</td>
</tr>
<tr>
<td>23 09 00</td>
<td>INSTRUMENTATION AND CONTROL FOR HVAC</td>
</tr>
<tr>
<td>23 10 00</td>
<td>FACILITY FUEL SYSTEMS</td>
</tr>
<tr>
<td>23 23 00</td>
<td>REFRIGERATION PIPING</td>
</tr>
<tr>
<td>23 23 90</td>
<td>HEAT RECOVERY WITH SIMULTANEOUS HEATING &amp; COOLING</td>
</tr>
<tr>
<td>23 30 00</td>
<td>HVAC AIR DISTRIBUTION</td>
</tr>
<tr>
<td>23 34 00</td>
<td>HVAC FANS</td>
</tr>
<tr>
<td>23 72 00</td>
<td>AIR-TO-AIR RECOVERY EQUIPMENT</td>
</tr>
<tr>
<td>23 72 23</td>
<td>PACKAGED AIR-TO-AIR ENERGY RECOVERY UNITS</td>
</tr>
<tr>
<td>23 72 50</td>
<td>AIR PURIFICATION SYSTEM</td>
</tr>
</tbody>
</table>
23 75 00 CUSTOM-PACKAGED OUTDOOR HVAC EQUIPMENT
23 83 00 RADIANT HEATING UNITS

DIVISION 26 - ELECTRICAL

26 00 00 ELECTRICAL
26 05 00 COMMON WORK RESULTS FOR ELECTRICAL
26 05 19.01 DISTRIBUTION CIRCUITS
26 05 19.02 FEEDER CIRCUITS
26 05 19.03 BRANCH CIRCUITS
26 05 26 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS
26 05 29 HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
26 05 33 RACEWAY AND BOXES FOR ELECTRICAL
26 05 33.16 BOXES FOR ELECTRICAL SYSTEMS
26 05 53 IDENTIFICATION FOR ELECTRICAL SYSTEMS
26 05 73 OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY
26 24 16 PANELBOARDS
26 27 26 WIRING DEVICES
26 28 16.13 ENCLOSED SWITCHES
26 28 16.16 ENCLOSED CIRCUIT BREAKERS
26 29 00 LOW-VOLTAGE CONTROLLERS
26 50 00 LIGHTING
26 60 00 ELEVATOR ELECTRICAL SYSTEMS
26 80 00 WIRELESS CLOCK SYSTEM
26 90 00 INTERCOM/TELEPHONE COMMUNICATIONS SYSTEM

DIVISION 27 – COMMUNICATIONS

27 00 00 COMMUNICATIONS

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

28 31 11 DIGITAL ADDRESSABLE FIRE ALARM SYSTEMS
28 90 00 AREA RESCUE SYSTEM

DIVISION 31 - EARTHWORK

31 10 00 SITE CLEARING
31 20 00 EARTHMOVING
31 25 00 EROSION AND SEDIMENT CONTROLS

DIVISION 32 - EXTERIOR IMPROVEMENTS

32 05 23 CONCRETE SIDEWALKS
32 12 16 ASPHALT PAVING
32 16 13 CONCRETE CURB
32 90 00 PLANTING
32 92 00 TURF AND GRASSES
DIVISION 33 - UTILITIES

33 11 00  WATER UTILITY PIPING
33 31 00  SANITARY SEWERAGE
33 41 00  STORM DRAINAGE
33 71 19.13 ELECTRICAL MANHOLES

END OF SECTION
**SECTION 00 01 15**  
**DRAWING LIST**

PART 1 - The actual drawings in the set supersede any discrepancies with this list. This list will be updated prior to inclusion in the successful bidder’s contract in accordance with any revisions or addenda. This entire section will be attached to the contract.

PART 2 - All bidders are responsible to review all drawings and include all necessary work related to their trade on any and all drawings.

<table>
<thead>
<tr>
<th>GENERAL</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>G-001 COVER SHEET v1, v2, v3</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>G-002 CODE ANALYSIS</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>G-110 CODE REVIEW PLAN - LOWER LEVEL</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>G-111 CODE REVIEW PLAN - FIRST FLOOR</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>G-112 CODE REVIEW PLAN - SECOND FLOOR</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>G-121 CONSTRUCTION PHASING PLAN - SITE WORK</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>G-122 CONSTRUCTION PHASING PLAN - BUILDING</td>
<td></td>
<td>3/25/2019</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CIVIL</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>C-001 BID PACKAGE B AREA B LIMITS</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-101 SITE CONSTRUCTION PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-102 SITE DEMOLITION PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-103 SITE DEMOLITION PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-104 SITE DEMOLITION PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-105 SITE CONSTRUCTION PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-106 SITE CONSTRUCTION PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-107 SITE CONSTRUCTION PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-108 SITE GRADING DETAILS</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-109 LAYOUT, STRIPING AND SIGNING PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-110 LAYOUT, STRIPING AND SIGNING PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-111 LAYOUT, STRIPING AND SIGNING PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-112 SITE CONSTRUCTION PLAN DETAILS</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>C-113 SITE CONSTRUCTION PLAN DETAILS</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>CS-101 COVER SHEET AND GENERAL NOTES</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>CS-102 PRE-CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>CS-103 CONSTRUCTION SITE STORMWATER MANAGEMENT PLAN</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>CS-104 CONSTRUCTION SITE DETAILS AND NOTES</td>
<td></td>
<td>3/25/2019</td>
</tr>
<tr>
<td>CS-105 CONSTRUCTION SITE DETAILS AND NOTES</td>
<td></td>
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<td>3/25/2019</td>
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SECTION 00 11 00
ADVERTISEMENT FOR BIDS

Bid BSD19001A-CLAYMONT-BID_PAC_B, Claymont Elementary School Renovations. There will be a pre-bid meeting on April 23, 2019 at 2:00pm at Claymont Elementary School at Whiting Turner’s Construction Office, 3401 Green St, Claymont DE 19703. Bid Drawings and specifications will be available at the pre-bid meeting from the Whiting-Turner Contracting Company. Contract documents may also be obtained beginning April 15, 2019, at the following link:

https://whiting-turner.box.com/v/Claymont4ARebid

The following are the bid offerings:
Masonry Bid # BSD19001A-04A

All bids will be publicly opened in the Whiting Turner Construction Office at the Claymont Elementary School on May 14, 2019 at 2:00 P.M. Time and place for opening of bids may be extended from that described above on not less than two calendar days notice by certified delivery, facsimile machine, or other verifiable electronic means to those bidders who obtained copies of the plans and specifications.

EOE

END OF SECTION
SECTION 00 11 10
INVITATION TO BID

Sealed bids for BSD Contract No. BSD19001A-CLAYMONT-BID_PAC_B – Claymont Elementary School Renovations Masonry Rebid will be received by the Brandywine School District on May 14, 2019 at 2:00pm at Claymont Elementary School in the Whiting-Turner Construction Office, 3401 Green St, Claymont DE 19703, at which time they will be publicly opened and read aloud. Bidder bears the risk of late delivery. Any bids received after the stated time will be returned unopened.

The following are the bid offerings:
Masonry Bid # BSD19001A-04A

This project is a major renovation of the entire school and all systems. Work will need to be phased in-order to keep school operations open. This bid package only includes Masonry, other scopes have been previously awarded.

Pursuing LEED Silver Certification.

Attention is called to construction schedule and phasing schedule as detailed in the Bid Documents.

A Pre-Bid Meeting will be held on April 23, 2019 at 2:00pm at Claymont Elementary School, at the Whiting Turner Construction Office, 3401 Green St, Claymont DE 19703 for the purpose of establishing the listing of subcontractors and to answer questions. This meeting is not Mandatory, but attendance is highly recommended.

Sealed bids shall be addressed to the Carol Riddle, Brandywine School District, 3305 Green Street, Claymont DE 19703. The outer envelope should clearly indicate: “BSD19001A-CLAYMONT-BID_PAC_B-04A – CLAYMONT ELEMETRY SCHOOL RENOVATIONS – SEALED BID – DO NOT OPEN."

Contract documents may be obtained beginning April 15, 2019, at the following link:

https://whiting-turner.box.com/v/Claymont4ARebid

All bids will be publicly opened at Claymont Elementary School, 3401 Green Street, Claymont, DE 19703 at the Whiting-Turner Construction Office on May 14, 2019 at 2:00 P.M. Time and place for opening of bids may be extended from that described above on not less than two calendar days notice by certified delivery, facsimile machine, or other verifiable electronic means to those bidders who obtained copies of the plans and specifications.

Pursuant to the Office of Management and Budget (OMB) “4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects” required that Contractors and Subcontractors who work on Large Public Works Contracts funded all or in part with public funds implement a Mandatory Drug Testing Program. The regulation can be downloaded from the following website:

Minority Business Enterprises (MBE), Disadvantaged Business Enterprises (DBE) and Women-Owned Business Enterprises (WBE) will be afforded full opportunity to submit bids on this contract and will not be subject to discrimination on the basis of race, color, national origin or sex in consideration of this award. Each bid must be accompanied by a bid security equivalent to ten percent of the bid amount and all additive alternates. The successful bidder must post a performance bond and payment bond in a sum equal to 100 percent of the contract price upon execution of the contract. The Owner reserves the right to reject any or all bids and to waive any informalities therein. The Owner may extend the time and place for the opening of the bids from that described in the advertisement, with not less than two calendar days notice by certified delivery, facsimile machine or other electronic means to those bidders receiving plans.

END OF SECTION
SECTION 00 21 13
INSTRUCTIONS TO BIDDERS

TABLE OF ARTICLES

1. DEFINITIONS

2. BIDDER’S REPRESENTATION

3. BIDDING DOCUMENTS

4. BIDDING PROCEDURES

5. CONSIDERATION OF BIDS

6. POST-BID INFORMATION

7. PERFORMANCE BOND AND PAYMENT BOND

8. FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR
ARTICLE 1: GENERAL

1.1 DEFINITIONS

1.1.1 Whenever the following terms are used, their intent and meaning shall be interpreted as follows:

1.2 STATE: The State of Delaware.

1.3 AGENCY: Contracting State Agency as noted on cover sheet.

1.4 DESIGNATED OFFICIAL: The agent authorized to act for the Agency.

1.5 BIDDING DOCUMENTS: Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement for Bid, Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders (if any), General Conditions, Supplementary General Conditions, General Requirements, Special Provisions (if any), the Bid Form (including the Non-collusion Statement), and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, as well as the Drawings, Specifications (Project Manual) and all Addenda issued prior to execution of the Contract.

1.6 CONTRACT DOCUMENTS: The Contract Documents consist of the, Instructions to Bidders, Supplementary Instructions to Bidders (if any), General Conditions, Supplementary General Conditions, General Requirements, Special Provisions (if any), the form of agreement between the Owner and the Contractor, Drawings (if any), Specifications (Project Manual), and all addenda.

1.7 AGREEMENT: The form of the Agreement shall be AIA Document A101, Standard Form of Agreement between Owner and Contractor where the basis of payment is a STIPULATED SUM. In the case of conflict between the instructions contained therein and the General Requirements herein, these General Requirements shall prevail.

1.8 GENERAL REQUIREMENTS (or CONDITIONS): General Requirements (or conditions) are instructions pertaining to the Bidding Documents and to contracts in general. They contain, in summary, requirements of laws of the State; policies of the Agency and instructions to bidders.

1.9 SPECIAL PROVISIONS: Special Provisions are specific conditions or requirements peculiar to the bidding documents and to the contract under consideration and are supplemental to the General Requirements. Should the Special Provisions conflict with the General Requirements, the Special Provisions shall prevail.

1.10 ADDENDA: Written or graphic instruments issued by the Owner/Architect prior to the execution of the contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

1.11 BIDDER OR VENDOR: A person or entity who formally submits a Bid for the material or Work contemplated, acting directly or through a duly authorized representative who meets the requirements set forth in the Bidding Documents.
1.12 SUB-BIDDER: A person or entity who submits a Bid to a Bidder for materials or labor, or both for a portion of the Work.

1.13 BID: A complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

1.14 BASE BID: The sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids (if any are required to be stated in the bid).

1.15 ALTERNATE BID (or ALTERNATE): An amount stated in the Bid, where applicable, to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents is accepted.

1.16 UNIT PRICE: An amount stated in the Bid, where applicable, as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.

1.17 SURETY: The corporate body which is bound with and for the Contract, or which is liable, and which engages to be responsible for the Contractor's payments of all debts pertaining to and for his acceptable performance of the Work for which he has contracted.

1.18 BIDDER'S DEPOSIT: The security designated in the Bid to be furnished by the Bidder as a guaranty of good faith to enter into a contract with the Agency if the Work to be performed or the material or equipment to be furnished is awarded to him.

1.19 CONTRACT: The written agreement covering the furnishing and delivery of material or work to be performed.

1.20 CONTRACTOR: Any individual, firm or corporation with whom a contract is made by the Agency.

1.21 SUBCONTRACTOR: An individual, partnership or corporation which has a direct contract with a contractor to furnish labor and materials at the job site, or to perform construction labor and furnish material in connection with such labor at the job site.

1.22 CONTRACT BOND: The approved form of security furnished by the contractor and his surety as a guaranty of good faith on the part of the contractor to execute the work in accordance with the terms of the contract.

ARTICLE 2: BIDDER'S REPRESENTATIONS

2.1 PRE-BID MEETING

2.1.1 A pre-bid meeting for this project will be held at the time and place designated. Attendance at this meeting is a pre-requisite for submitting a Bid, unless this requirement is specifically waived elsewhere in the Bid Documents.
2.2 By submitting a Bid, the Bidder represents that:

2.2.1 The Bidder has read and understands the Bidding Documents and that the Bid is made in accordance therewith.

2.2.2 The Bidder has visited the site, become familiar with existing conditions under which the Work is to be performed, and has correlated the Bidder’s his personal observations with the requirements of the proposed Contract Documents.

2.2.3 The Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception.

2.3 JOINT VENTURE REQUIREMENTS

2.3.1 For Public Works Contracts, each Joint Venturer shall be qualified and capable to complete the Work with their own forces.

2.3.2 Included with the Bid submission, and as a requirement to bid, a copy of the executed Joint Venture Agreement shall be submitted and signed by all Joint Venturers involved.

2.3.3 All required Bid Bonds, Performance Bonds, Material and Labor Payment Bonds must be executed by both Joint Venturers and be placed in both of their names.

2.3.4 All required insurance certificates shall name both Joint Venturers.

2.3.5 Both Joint Venturers shall sign the Bid Form and shall submit a valid Delaware Business License Number with their Bid or shall state that the process of application for a Delaware Business License has been initiated.

2.3.6 Both Joint Venturers shall include their Federal E.I. Number with the Bid.

2.3.7 In the event of a mandatory Pre-bid Meeting, each Joint Venturer shall have a representative in attendance.

2.3.8 Due to exceptional circumstances and for good cause shown, one or more of these provisions may be waived at the discretion of the State.

2.4 ASSIGNMENT OF ANTITRUST CLAIMS

2.4.1 As consideration for the award and execution by the Owner of this contract, the Contractor hereby grants, conveys, sells, assigns and transfers to the State of Delaware all of its right, title and interests in and to all known or unknown causes of action it presently has or may now or hereafter acquire under the antitrust laws of the United States and the State of Delaware, relating to the particular goods or services purchased or acquired by the Owner pursuant to this contract.

ARTICLE 3: BIDDING DOCUMENTS

3.1 COPIES OF BID DOCUMENTS
3.1.1 Bidders may obtain complete sets of the Bidding Documents from the Architectural/Engineering firm designated in the Advertisement or Invitation to Bid in the number and for the deposit sum, if any, stated therein.

3.1.2 Bidders shall use complete sets of Bidding Documents for preparation of Bids. The issuing Agency nor the Architect assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.1.3 Any errors, inconsistencies or omissions discovered shall be reported to the Architect immediately.

3.1.4 The Agency and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

3.2 INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS

3.2.1 The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall report any errors, inconsistencies, or ambiguities discovered to the Architect.

3.2.2 Bidders or Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Architect at least seven days prior to the date for receipt of Bids. Interpretations, corrections and changes to the Bidding Documents will be made by written Addendum. Interpretations, corrections, or changes to the Bidding Documents made in any other manner shall not be binding.

3.2.3 The apparent silence of the specifications as to any detail, or the apparent omission from it of detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and only material and workmanship of the first quality are to be used. Proof of specification compliance will be the responsibility of the Bidder.

3.2.4 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all permits, labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work.

3.2.5 The Owner will bear the costs for all impact and user fees associated with the project.

3.3 SUBSTITUTIONS

3.3.1 The materials, products and equipment described in the Bidding Documents establish a standard of quality, required function, dimension, and appearance to be met by any proposed substitution. The specification of a particular manufacturer or model number is not intended to be proprietary in any way. Substitutions of products for those named will be considered, providing that the Vendor certifies that the function, quality, and performance characteristics of the material offered is equal or superior to that specified. It shall be the Bidder's
responsibility to assure that the proposed substitution will not affect the intent of the design, and to make any installation modifications required to accommodate the substitution.

3.3.2 Requests for substitutions shall be made in writing to the Architect at least ten days prior to the date of the Bid Opening. Such requests shall include a complete description of the proposed substitution, drawings, performance and test data, explanation of required installation modifications due to the substitution, and any other information necessary for an evaluation. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect’s decision of approval or disapproval shall be final. The Architect is to notify Owner prior to any approvals.

3.3.3 If the Architect approves a substitution prior to the receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding.

3.3.4 The Architect shall have no obligation to consider any substitutions after the Contract award.

3.4 ADDENDA

3.4.1 Addenda will be mailed or delivered to all who are known by the Architect to have received a complete set of the Bidding Documents.

3.4.2 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

3.4.3 No Addenda will be issued later than 4 days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which extends the time or changes the location for the opening of bids.

3.4.4 Each bidder shall ascertain prior to submitting his Bid that they have received all Addenda issued, and shall acknowledge their receipt in their Bid in the appropriate space. Not acknowledging an issued Addenda could be grounds for determining a bid to be non-responsive.

ARTICLE 4: BIDDING PROCEDURES

4.1 PREPARATION OF BIDS

4.1.1 Submit the bids on the Bid Forms included with the Bidding Documents.

4.1.2 Submit the original Bid Form for each bid. Bid Forms may be removed from the project manual for this purpose.

4.1.3 Execute all blanks on the Bid Form in a non-erasable medium (typewriter or manually in ink).

4.1.4 Where so indicated by the makeup on the Bid Form, express sums in both words and figures, in case of discrepancy between the two, the written amount shall govern.

4.1.5 Interlineations, alterations or erasures must be initialed by the signer of the Bid.
4.1.6 BID ALL REQUESTED ALTERNATES AND UNIT PRICES, IF ANY. If there is no change in the Base Bid for an Alternate, enter “No Change”. The Contractor is responsible for verifying that they have received all addenda issued during the bidding period. Work required by Addenda shall automatically become part of the Contract.

4.1.7 Make no additional stipulations on the Bid Form and do not qualify the Bid in any other manner.

4.1.8 Each copy of the Bid shall include the legal name of the Bidder and a statement whether the Bidder is a sole proprietor, a partnership, a corporation, or any legal entity, and each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current Power of Attorney attached, certifying agent's authority to bind the Bidder.

4.1.9 Bidder shall complete the Non-Collusion Statement form included with the Bid Forms and include it with their Bid.

4.1.10 In the construction of all Public Works projects for the State of Delaware or any agency thereof, preference in employment of laborers, workers or mechanics shall be given to bona fide legal citizens of the State who have established citizenship by residence of at least 90 days in the State.

4.1.11 Each bidder shall include a signed Affidavit for the Bidder certifying compliance with OMB Regulation 4104 - “Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on “Large Public Works Projects.” “Large Public Works” is based upon the current threshold required for bidding Public Works as set by the Purchasing and Contracting Advisory Council.

4.2 BID SECURITY

4.2.1 All bids shall be accompanied by a deposit of either a good and sufficient bond to the agency for the benefit of the agency, with corporate surety authorized to do business in this State, the form of the bond and the surety to be approved by the agency, or a security of the bidder assigned to the agency, for a sum equal to at least 10% of the bid plus all add alternates, or in lieu of the bid bond a security deposit in the form of a certified check, bank treasurer’s check, cashier’s check, money order, or other prior approved secured deposit assigned to the State. The bid bond need not be for a specific sum, but may be stated to be for a sum equal to 10% of the bid plus all add alternates to which it relates and not to exceed a certain stated sum, if said sum is equal to at least 10% of the bid. The Bid Bond form used shall be the standard OMB form (attached).

4.2.2 The Agency has the right to retain the bid security of Bidders to whom an award is being considered until either a formal contract has been executed and bonds have been furnished or the specified time has elapsed so the Bids may be withdrawn or all Bids have been rejected.

4.2.3 In the event of any successful Bidder refusing or neglecting to execute a formal contract and bond within 20 days of the awarding of the contract, the bid bond or security deposited by the successful bidder shall be forfeited.
4.3  SUBCONTRACTOR LIST

4.3.1 As required by Delaware Code, Title 29, section 6962(d)(10)b, each Bidder shall submit with their Bid a completed List of Sub-Contractors included with the Bid Form. NAME ONLY ONE SUBCONTRACTOR FOR EACH TRADE. A Bid will be considered non-responsive unless the completed list is included.

4.3.2 Provide the Name and Address for each listed subcontractor. Addresses by City, Town or Locality, plus State, will be acceptable.

4.3.3 It is the responsibility of the Contractor to ensure that their Subcontractors are in compliance with the provisions of this law. Also, if a Contractor elects to list themselves as a Subcontractor for any category, they must specifically name themselves on the Bid Form and be able to document their capability to act as Subcontractor in that category in accordance with this law.

4.4  EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS

4.4.1 During the performance of this contract, the contractor agrees as follows:

A. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex or national origin. The Contractor will take affirmative action to ensure the applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, sex or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.

B. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex or national origin."

4.5  PREVAILING WAGE REQUIREMENT

4.5.1 Wage Provisions: In accordance with Delaware Code, Title 29, Section 6960, renovation projects whose total cost shall exceed $15,000, and $100,000 for new construction, the minimum wage rates for various classes of laborers and mechanics shall be as determined by the Department of Labor, Division of Industrial Affairs of the State of Delaware.

4.5.2 The prevailing wage shall be the wage paid to a majority of employees performing similar work as reported in the Department’s annual prevailing wage survey or in the absence of a majority, the average paid to all employees reported.

4.5.3 The employer shall pay all mechanics and labors employed directly upon the site of work, unconditionally and not less often than once a week and without subsequent deduction or
rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the specifications, regardless of any contractual relationship which may be alleged to exist between the employer and such laborers and mechanics.

4.5.4 The scale of the wages to be paid shall be posted by the employer in a prominent and easily accessible place at the site of the work.

4.5.5 Every contract based upon these specifications shall contain a stipulation that sworn payroll information, as required by the Department of Labor, be furnished weekly. The Department of Labor shall keep and maintain the sworn payroll information for a period of 6 months from the last day of the work week covered by the payroll.

4.5.6 The contractor must pay his mechanics and laborers once a week at a rate given in the said current official prevailing wage rate schedule which must be posted in a prominent and easily accessible location on the worksite and that the contractor will provide sworn payroll info weekly to the Delaware Department of Labor in accordance with 29Del. C. §§6960 (a), (b) and (c).

4.6 SUBMISSION OF BIDS

4.6.1 Enclose the Bid, the Bid Security, and any other documents required to be submitted with the Bid in a sealed opaque envelope. Address the envelope to the party receiving the Bids. Identify with the project name, project number, and the Bidder's name and address. If the Bid is sent by mail, enclose the sealed envelope in a separate mailing envelope with the notation "BID ENCLOSED" on the face thereof. The State is not responsible for the opening of bids prior to bid opening date and time that are not properly marked.

4.6.2 Deposit Bids at the designated location prior to the time and date for receipt of bids indicated in the Advertisement for Bids. Bids received after the time and date for receipt of bids will be marked “LATE BID” and returned.

4.6.3 Bidder assumes full responsibility for timely delivery at location designated for receipt of bids.

4.6.4 Oral, telephonic or telegraphic bids are invalid and will not receive consideration.

4.6.5 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids, provided that they are then fully in compliance with these Instructions to Bidders.

4.7 MODIFICATION OR WITHDRAW OF BIDS

4.7.1 Prior to the closing date for receipt of Bids, a Bidder may withdraw a Bid by personal request and by showing proper identification to the Architect. A request for withdraw by letter or fax, if the Architect is notified in writing prior to receipt of fax, is acceptable. A fax directing a modification in the bid price will render the Bid informal, causing it to be ineligible for consideration of award. Telephone directives for modification of the bid price shall not be permitted and will have no bearing on the submitted proposal in any manner.
4.7.2 Bidders submitting Bids that are late shall be notified as soon as practicable and the bid shall be returned.

4.7.3 A Bid may not be modified, withdrawn or canceled by the Bidder during a thirty (30) day period following the time and date designated for the receipt and opening of Bids, and Bidder so agrees in submitting their Bid. Bids shall be binding for 30 days after the date of the Bid opening.

4.8 PREFERENCE FOR DELAWARE LABOR: STIPULATION IN CONTRACT

In the construction of all public works for the State or any political subdivision thereof, or by persons contracting with the State or any political subdivision thereof, preference in employment of laborers, workmen or mechanics, shall be given to bona fide legal citizens of the State, who have established citizenship by residence of at least ninety days in the State. Any person, company or corporation who violates the provisions of this section shall pay a penalty to the Secretary of Finance equal to the amount of compensation paid to any person in violation of this section. (per Delaware Code, Title 29, Chapter 69, Section 6962, Paragraph (d) Subsection (4)b)

ARTICLE 5: CONSIDERATION OF BIDS

5.1 OPENING/REJECTION OF BIDS

5.1.1 Unless otherwise stated, Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids will be made available to Bidders.

5.1.2 The Agency shall have the right to reject any and all Bids. A Bid not accompanied by a required Bid Security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.

5.1.3 If the Bids are rejected, it will be done within thirty (30) calendar day of the Bid opening.

5.2 COMPARISON OF BIDS

5.2.1 After the Bids have been opened and read, the bid prices will be compared and the result of such comparisons will be made available to the public. Comparisons of the Bids may be based on the Base Bid plus desired Alternates. The Agency shall have the right to accept Alternates in any order or combination.

5.2.2 The Agency reserves the right to waive technicalities, to reject any or all Bids, or any portion thereof, to advertise for new Bids, to proceed to do the Work otherwise, or to abandon the Work, if in the judgment of the Agency or its agent(s), it is in the best interest of the State.

5.2.3 An increase or decrease in the quantity for any item is not sufficient grounds for an increase or decrease in the Unit Price.

5.2.4 The prices quoted are to be those for which the material will be furnished F.O.B. Job Site and include all charges that may be imposed during the period of the Contract.
5.2.5 No qualifying letter or statements in or attached to the Bid, or separate discounts will be considered in determining the low Bid except as may be otherwise herein noted. Cash or separate discounts should be computed and incorporated into Unit Bid Price(s).

5.3 DISQUALIFICATION OF BIDDERS

5.3.1 An agency shall determine that each Bidder on any Public Works Contract is responsible before awarding the Contract. Factors to be considered in determining the responsibility of a Bidder include:

A. The Bidder’s financial, physical, personnel or other resources including Subcontracts;

B. The Bidder’s record of performance on past public or private construction projects, including, but not limited to, defaults and/or final adjudication or admission of violations of the Prevailing Wage Laws in Delaware or any other state;

C. The Bidder’s written safety plan;

D. Whether the Bidder is qualified legally to contract with the State;

E. Whether the Bidder supplied all necessary information concerning its responsibility; and,

F. Any other specific criteria for a particular procurement, which an agency may establish; provided however, that, the criteria be set forth in the Invitation to Bid and is otherwise in conformity with State and/or Federal law.

5.3.2 If an agency determines that a Bidder is nonresponsive and/or non-responsible, the determination shall be in writing and set forth the basis for the determination. A copy of the determination shall be sent to the affected Bidder within five (5) working days of said determination.

5.3.3 In addition, any one or more of the following causes may be considered as sufficient for the disqualification of a Bidder and the rejection of their Bid or Bids.

5.3.3.1 More than one Bid for the same Contract from an individual, firm or corporation under the same or different names.

5.3.3.2 Evidence of collusion among Bidders.

5.3.3.3 Unsatisfactory performance record as evidenced by past experience.

5.3.3.4 If the Unit Prices are obviously unbalanced either in excess or below reasonable cost analysis values.

5.3.3.5 If there are any unauthorized additions, interlineation, conditional or alternate bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite or ambiguous as to its meaning.
5.3.3.6 If the Bid is not accompanied by the required Bid Security and other data required by the Bidding Documents.

5.3.3.7 If any exceptions or qualifications of the Bid are noted on the Bid Form.

5.4 ACCEPTANCE OF BID AND AWARD OF CONTRACT

5.4.1 A formal Contract shall be executed with the successful Bidder within twenty (20) calendar days after the award of the Contract.

5.4.2 Per Section 6962(d)(13) a., Title 29, Delaware Code, “The contracting agency shall award any public works contract within thirty (30) days of the bid opening to the lowest responsive and responsible Bidder, unless the Agency elects to award on the basis of best value, in which case the election to award on the basis of best value shall be stated in the Invitation To Bid.”

5.4.3 Each Bid on any Public Works Contract must be deemed responsive by the Agency to be considered for award. A responsive Bid shall conform in all material respects to the requirements and criteria set forth in the Contract Documents and specifications.

5.4.4 The Agency shall have the right to accept Alternates in any order or combination, and to determine the low Bidder on the basis of the sum of the Base Bid, plus accepted Alternates.

5.4.5 The successful Bidder shall execute a formal contract, submit the required Insurance Certificate, and furnish good and sufficient bonds, unless specifically waived in the General Requirements, in accordance with the General Requirement, within twenty (20) days of official notice of contract award. The successful Bidder shall provide, at least two business days prior to contract execution, copies of the Employee Drug Testing Program for the Bidder and all listed Subcontractors. Bonds shall be for the benefit of the Agency with surety in the amount of 100% of the total contract award. Said Bonds shall be conditioned upon the faithful performance of the contract. Bonds shall remain in affect for period of one year after the date of substantial completion.

5.4.6 If the successful Bidder fails to execute the required Contract and Bond, as aforesaid, within twenty (20) calendar days after the date of official Notice of the Award of the Contract, their Bid guaranty shall immediately be taken and become the property of the State for the benefit of the Agency as liquidated damages, and not as a forfeiture or as a penalty. Award will then be made to the next lowest qualified Bidder of the Work or readvertised, as the Agency may decide.

5.4.7 Each bidder shall supply with its bid its taxpayer identification number (i.e., federal employer identification number or social security number) or a Delaware business license number, and should the vendor be awarded a contract, such vendor shall provide to the agency the taxpayer identification or Delaware business license numbers of such subcontractors. Such numbers shall be provided on the later of the date on which such subcontractor is required to be identified or the time the contract is executed. Prior to execution of the resulting contract, the successful Bidder shall be required to produce proof of its Delaware business license if not provided in its bid.
5.4.8 The Bid Security shall be returned to the successful Bidder upon the execution of the formal contract. The Bid Securities of unsuccessful bidders shall be returned within thirty (30) calendar days after the opening of the Bids.

ARTICLE 6: POST-BID INFORMATION

6.1 CONTRACTOR’S QUALIFICATION STATEMENT

6.1.1 Bidders to whom award of a Contract is under consideration shall, if requested by the Agency, submit a properly executed AIA Document A305, Contractor’s Qualification Statement, unless such a statement has been previously required and submitted.

6.2 BUSINESS DESIGNATION FORM

6.2.1 Successful bidder shall be required to accurately complete an Office of Management and Budget Business Designation Form for Subcontractors.

ARTICLE 7: PERFORMANCE BOND AND PAYMENT BOND

7.1 BOND REQUIREMENTS

7.1.1 The cost of furnishing the required Bonds, that are stipulated in the Bidding Documents, shall be included in the Bid.

7.1.2 If the Bidder is required by the Agency to secure a bond from other than the Bidder’s usual sources, changes in cost will be adjusted as provide in the Contract Documents.

7.1.3 The Performance and Payment Bond forms used shall be the standard OMB forms (attached).

7.2 TIME OF DELIVERY AND FORM OF BONDS

7.2.1 The bonds shall be dated on or after the date of the Contract.

7.2.2 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix a certified and current copy of the power of attorney.

ARTICLE 8: FORM OF AGREEMENT BETWEEN AGENCY AND CONTRACTOR

8.1 Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A132-2009 Standard Form of Agreement between Owner and Contractor, Construction Manager as Adviser Edition.

END OF SECTION
SECTION 00 40 00
BID FORM

For Bids Due: 5/14/2019 To: Brandywine School District

Bid Package: 04A - Masonry

Name of Bidder:

Delaware Business License No.: Taxpayer ID No.: (Other License Nos.):

Phone No.: ________________________________

The undersigned, representing that he has read and understands the Bidding Documents and that this bid is made in accordance therewith, that he has visited the site and has familiarized themselves with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID: $ ________ Dollars

($ ________ )

ALTERNATES – See Specific Scope of Work for complete descriptions of alternate pricing:

Refer to the specifications and specific scope of work for alternates. Not all of the blanks spaces may be required. Alternate prices are to conform to applicable project specification sections or drawing details. An “ADD” or “DEDUCT” amount is indicated by the crossed out part that does not apply. If alternate does not apply to a specific bid package, insert: “Not Applicable”

1. Alternate No. 1: NOT USED
2. Alternate No. 2: NOT USED
3. Alternate No. 3: NOT USED
4. Alternate No. 4: NOT USED
5. Alternate No. 5: NOT USED
6. Alternate No. 6: NOT USED
7. Alternate No. 7: NOT USED
8. Alternate No. 8: NOT USED
9. Alternate No. 9: NOT USED
10. Alternate No. 10: NOT USED
11. Alternate No. 11: NOT USED
Claymont Elementary School Renovation
Brandywine School District

12. Alternate No. 12: Curtain wall at Area D South facade.
   Add / Deduct: ____________________________ Dollars
   ($ __________ )

13. Alternate No. 13: NOT USED
14. Alternate No. 14: NOT USED
15. Alternate No. 15: NOT USED
16. Alternate No. 16: NOT USED
17. Alternate No. 17: NOT USED
18. Alternate No. 18: NOT USED
19. Alternate No. 19: NOT USED
20. Alternate No. 20: NOT USED
21. Alternate No. 21: NOT USED
22. Alternate No. 22: NOT USED

23. Alternate No. 23: New windows at Area E
   Add / Deduct: ____________________________ Dollars
   ($ __________ )

24. Alternate No. 24: New windows at Area F
   Add / Deduct: ____________________________ Dollars
   ($ __________ )

25. Alternate No. 25: NOT USED

UNIT PRICES – See specific Scope of Work for unit pricing description:

Unit prices conform to applicable project specification section. Refer to the specifications and/or specific scope of work for a complete description of required unit prices for this bid package.

<table>
<thead>
<tr>
<th>UNIT PRICE No. 1</th>
<th>Racking and repointing of masonry per lnft</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ADD $ __________ DEDUCT $ __________</td>
</tr>
</tbody>
</table>

We acknowledge the receipt of addenda as listed below and the price(s) submitted include any cost/schedule impact they may have.

<table>
<thead>
<tr>
<th>Addendum Number</th>
<th>Date of Addendum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This bid shall remain valid and cannot be withdrawn for Sixty (60) days from the date of opening of bids, and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid (REQUIRED).

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

BID FORM 00 40 00 - 2

ABHA Architects
Project No. 1630
This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to complete all the work required in accordance with the project schedule include in specification section 013210.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By ___________________________ Trading as ________________________________
(Individual’s / General Partner’s / Corporate Name)

______________________________
(State of Corporation)

Business Address:
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

Witness: ______________________ By: __________________________
(Authorized Signature)

______________________________
(Printed Name and Title)

Date: __________________________

ATTACHMENTS
Sub-Contractor List (See Section 00435 and any updates by addenda)
Non-Collusion Statement
Affidavit of Employee Drug Testing Program
Bid Security (Deposit or Bid Bond)
**BID FORM**

**Bid Package # BSD19001A-04A**

**SUBCONTRACTOR LIST**

In accordance with Title 29, Chapter 6962 (d)(10)b Delaware Code, the following sub-contractor listing must accompany the bid submittal. The name and address of the sub-contractor **must be listed for each category** where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the **Owner**, it is required that bidders list themselves as being the sub-contractor for **all categories where he/she is qualified and intends to perform such work**. This form must be filled out completely with no additions or deletions.

**NOTE:** Subcontractor categories specific to each bid package are listed in specification section 00435 and will be updated at the pre-bid meeting and via addendum. If no categories are requested for a bid package, then none are required to be submitted. Refer to specification section 00435 and any addenda that may modify the required listing.

<table>
<thead>
<tr>
<th>Subcontractor Category</th>
<th>Subcontractor</th>
<th>Address (City &amp; State) &amp; License #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masonry</td>
<td></td>
<td>City: ___________________________</td>
</tr>
<tr>
<td></td>
<td></td>
<td>State: __________________________</td>
</tr>
<tr>
<td></td>
<td></td>
<td>License #: ______________________</td>
</tr>
</tbody>
</table>

BID FORM
00 40 00 - 4

ABHA Architects
Project No. 1630
BID FORM

NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date to the Brandywine School District.

All the terms and conditions of Bid #BSD19001A-CLAYMONT-BID_PAC_B have been thoroughly examined and are understood.

NAME OF BIDDER: ________________________________________________________________

AUTHORIZED REPRESENTATIVE (TYPED): __________________________________________

AUTHORIZED REPRESENTATIVE (SIGNATURE): _____________________________________

TITLE: _______________________________________________________________________

ADDRESS OF BIDDER: ___________________________________________________________

E-MAIL: _________________________________________________________________

PHONE NUMBER: _____________________________________________________________

Sworn to and Subscribed before me this ____________________________ day of ________________ 20___.

My Commission expires ______________________. NOTARY PUBLIC ____________________.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.
AFFIDAVIT OF EMPLOYEE DRUG TESTING PROGRAM

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors that complies with this regulation:

Contractor/Subcontractor Name: __________________________________________

Contractor/Subcontractor Address: _________________________________________
_____________________________________________________________________
_____________________________________________________________________

Authorized Representative (typed or printed): _______________________________

Authorized Representative (signature): _____________________________________

Title: _________________________________________________________________

Sworn to and Subscribed before me this ______________ day of ____________ 20___.

My Commission expires ____________________ NOTARY PUBLIC ____________________

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

END OF SECTION
SECTION 00 43 00
BID BOND

TO ACCOMPANY PROPOSAL
(Not necessary if security is used)

KNOW ALL MEN BY THESE PRESENTS That: _____________ of _____________ in the County of _____________ and State of _____________ as Principal, and _____________ of _____________ in the County of _____________ and State of _____________ as Surety, legally authorized to do business in the State of Delaware (“State”), are held and firmly unto the State in the sum of _____________ Dollars ($___________), or _____________ percent not to exceed _____________ Dollars ($___________) of amount of bid on Contract No. _____________, to be paid to the State for the use and benefit of _____________ (insert State agency name) for which payment well and truly to be made, we do bind ourselves, our and each of our heirs, executors, administrators, and successors, jointly and severally for and in the whole firmly by these presents.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bonded Principal who has submitted to the _____________ (insert State agency name) a certain proposal to enter into this contract for the furnishing of certain material and/or services within the State, shall be awarded this Contract, and if said Principal shall well and truly enter into and execute this Contract as may be required by the terms of this Contract and approved by the _____________ (insert State agency name) this Contract to be entered into within twenty days after the date of official notice of the award thereof in accordance with the terms of said proposal, then this obligation shall be void or else to be and remain in full force and virtue.

Sealed with ________ seal and dated this ________ day of ________, ________ in the year of our Lord two thousand and _____________ (20___).

SEALED, AND DELIVERED IN THE
Presence of

________________________________________
Name of Bidder (Organization)

Corporate Seal 
By: ___________________________________

Authorized Signature

Attest ______________________
Title

_____________________________________
Name of Surety

Witness: ______________________ 
By: ______________________

Title
SECTION 00 43 20
REQUIREMENTS FOR APPROVAL FOR LISTING AS A SUBCONTRACTOR

1. Refer to the following section 004350 for any subcontractors or material suppliers to be listed on the bid form.

2. The Construction Manager / Owner will use the following criteria to determine qualifications for any Contractor for listing as a Subcontractor in any trade area:
   a. The Contractor regularly employs and continuously maintains on his payroll skilled craftsmen in the trade. These skilled craftsmen shall be registered in the trade when such registration is required.
   b. The Contractor owns the tools and equipment normally associated with the trade.
   c. The Contractor has previously performed work in the trade which is similar in scope, size, complexity and cost to the proposed construction.
   d. The Contractor must have or must have applied for a Delaware Business License prior to bidding the project.

3. The Construction Manager / Owner may challenge or disqualify any Contractor based on failure to meet any of the above criteria for qualification for listing as Subcontractor in a trade. Bidders may be required to present such evidence as deemed necessary to evaluate qualifications. The decision to disqualify a Contractor in a given trade shall be made by the Brandywine School District and all decisions shall be final.

4. The subcontractor listing is provided for information only to the construction manager and the owner if the subcontractor category was not requested at the pre-bid meeting or requested by the CM or owner.

END OF SECTION
SECTION 00 43 50
LIST OF SUBCONTRACTORS OR MATERIAL SUPPLIERS

Where the Bidder intends to perform the work with his own forces, his name is listed as a subcontractor.

This list will be updated via the pre-bid meeting.
Check addenda and bid forms for final listing.

Fill out the required information on the bid form:

<table>
<thead>
<tr>
<th>BID PACKAGE #</th>
<th>BID PACKAGE DESCRIPTION</th>
<th>SUBCONTRACTOR / SUPPLIER CATEGORY TO BE LISTED ON BID FORM</th>
</tr>
</thead>
<tbody>
<tr>
<td>19001-04A</td>
<td>Masonry</td>
<td>Masonry</td>
</tr>
</tbody>
</table>

END OF SECTION
**AGREEMENT** made as of the «...» day of «...» in the year «...»
(In words, indicate day, month and year.)

**BETWEEN** the Owner:
(Name, legal status, address and other information)

«...» «...» «...» «...»

and the Contractor:
(Name, legal status, address and other information)

«...» «...» «...» «...»

for the following Project:
(Name, location and detailed description)

«A Blanks» «...» «...» «...»

The Construction Manager:
(Name, legal status, address and other information)

«...» «...» «...» «...»

The Architect:
(Name, legal status, address and other information)

«...» «...» «...» «...»

The Owner and Contractor agree as follows.
TABLE OF ARTICLES

1 THE CONTRACT DOCUMENTS
2 THE WORK OF THIS CONTRACT
3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
4 CONTRACT SUM
5 PAYMENTS
6 DISPUTE RESOLUTION
7 TERMINATION OR SUSPENSION
8 MISCELLANEOUS PROVISIONS
9 ENUMERATION OF CONTRACT DOCUMENTS
10 INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than Modifications, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

(Insert the date of commencement, if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

If, prior to the commencement of the Work, the Owner requires time to file mortgages, mechanics’ liens and other security interests, the Owner’s time requirement shall be as follows:

§ 3.2 The Contract Time shall be measured from the date of commencement.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work not later than « » (« ») days from the date of commencement, or as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)
ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor’s performance of the Contract. The Contract Sum shall be one of the following:

(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

<table>
<thead>
<tr>
<th>Portion of the Work</th>
<th>Substantial Completion Date</th>
</tr>
</thead>
</table>

Based on the selection above, complete Section 4.2, 4.3 or 4.4 below. Based on the selection above, also complete either Section 5.1.4, 5.1.5 or 5.1.6 below."

§ 4.2 Stipulated Sum

§ 4.2.1 The Stipulated Sum shall be ( ) ($ ) , subject to additions and deletions as provided in the Contract Documents.

§ 4.2.2 The Stipulated Sum is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 4.2.3 Unit prices, if any:

(Identify and state the unit price, and state the quantity limitations, if any, to which the unit price will be applicable.)

<table>
<thead>
<tr>
<th>Item</th>
<th>Units and Limitations</th>
<th>Price per Unit ($0.00)</th>
</tr>
</thead>
</table>

§ 4.2.4 Allowances included in the Stipulated Sum, if any:

(Identify allowance and state exclusions, if any, from the allowance price.)

<table>
<thead>
<tr>
<th>Item</th>
<th>Allowance</th>
</tr>
</thead>
</table>

§ 4.3 Cost of the Work Plus Contractor’s Fee without a Guaranteed Maximum Price

§ 4.3.1 The Contract Sum is the Cost of the Work as defined in Exhibit A, Determination of the Cost of the Work, plus the Contractor’s Fee.

§ 4.3.2 The Contractor’s Fee:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor’s Fee.)

Based on the selection above, complete Section 4.2, 4.3 or 4.4 below. Based on the selection above, also complete either Section 5.1.4, 5.1.5 or 5.1.6 below.)
§ 4.3.3 The method of adjustment of the Contractor’s Fee for changes in the Work:

§ 4.3.4 Limitations, if any, on a Subcontractor’s overhead and profit for increases in the cost of its portion of the Work:

§ 4.3.5 Rental rates for Contractor-owned equipment shall not exceed « » percent ( « » %) of the standard rate paid at the place of the Project.

§ 4.3.6 Unit prices, if any:
(Identify and state the unit price; state quantity limitations, if any, to which the unit price will be applicable.)

<table>
<thead>
<tr>
<th>Item</th>
<th>Units and Limitations</th>
<th>Price per Unit ($0.00)</th>
</tr>
</thead>
</table>

§ 4.3.7 The Contractor shall prepare and submit to the Construction Manager for the Owner, in writing, a Control Estimate within 14 days of executing this Agreement. The Control Estimate shall include the items in Section A.1 of Exhibit A, Determination of the Cost of the Work.

§ 4.4 Cost of the Work Plus Contractor’s Fee with a Guaranteed Maximum Price

§ 4.4.1 The Contract Sum is the Cost of the Work as defined in Exhibit A, Determination of the Cost of the Work, plus the Contractor’s Fee.

§ 4.4.2 The Contractor’s Fee:
(State a lump sum, percentage of Cost of the Work or other provision for determining the Contractor’s Fee.)

§ 4.4.3 The method of adjustment of the Contractor’s Fee for changes in the Work:

§ 4.4.4 Limitations, if any, on a Subcontractor’s overhead and profit for increases in the cost of its portion of the Work:

§ 4.4.5 Rental rates for Contractor-owned equipment shall not exceed « » percent ( « » %) of the standard rate paid at the place of the Project.

§ 4.4.6 Unit Prices, if any:
(Identify and state the unit price, and state the quantity limitations, if any, to which the unit price will be applicable.)

<table>
<thead>
<tr>
<th>Item</th>
<th>Units and Limitations</th>
<th>Price per Unit ($0.00)</th>
</tr>
</thead>
</table>

§ 4.4.7 Guaranteed Maximum Price

§ 4.4.7.1 The sum of the Cost of the Work and the Contractor’s Fee is guaranteed by the Contractor not to exceed « » ($ « »), subject to additions and deductions by changes in the Work as provided in the Contract Documents. Such maximum sum is referred to in the Contract Documents as the Guaranteed Maximum Price. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Contractor without reimbursement by the Owner.
§ 4.4.7.2 The Guaranteed Maximum Price is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

§ 4.4.7.3 Allowances included in the Guaranteed Maximum Price, if any:
(Identify and state the amounts of any allowances, and state whether they include labor, materials, or both.)

<table>
<thead>
<tr>
<th>Item</th>
<th>Allowance</th>
</tr>
</thead>
</table>

§ 4.4.7.4 Assumptions, if any, on which the Guaranteed Maximum Price is based:

ARTICLE 5   PAYMENTS
§ 5.1 Progress Payments
§ 5.1.1 Based upon Applications for Payment submitted to the Construction Manager by the Contractor, and upon certification of the Project Application and Project Certificate for Payment or Application for Payment and Certificate for Payment by the Construction Manager and Architect and issuance by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Construction Manager not later than the « » day of a month, the Owner shall make payment of the certified amount in the Application for Payment to the Contractor not later than the « » day of the « » month. If an Application for Payment is received by the Construction Manager after the application date fixed above, payment shall be made by the Owner not later than « » (« ») days after the Construction Manager receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Progress Payments Where the Contract Sum is Based on a Stipulated Sum
§ 5.1.4.1 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Construction Manager and Architect may require. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor’s Applications for Payment.

§ 5.1.4.2 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.4.3 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:
.1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of « » percent (« %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute may be included as provided in Section 7.3.9 of the General Conditions;
.2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of « » percent (« » %);

.3 Subtract the aggregate of previous payments made by the Owner; and

.4 Subtract amounts, if any, for which the Construction Manager or Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of the General Conditions.

§ 5.1.4.4 The progress payment amount determined in accordance with Section 5.1.4.3 shall be further modified under the following circumstances:

.1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to « » percent (« » %) of the Contract Sum, less such amounts as the Construction Manager recommends and the Architect determines for incomplete Work and unsettled claims; and

.2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of the General Conditions.

§ 5.1.4.5 Reduction or limitation of retainage, if any, shall be as follows:

(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.4.3.1 and 5.1.4.3.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

« »

§ 5.1.5 Progress Payments Where the Contract Sum is Based on the Cost of the Work without a Guaranteed Maximum Price

§ 5.1.5.1 With each Application for Payment, the Contractor shall submit the cost control information required in Exhibit A, Determination of the Cost of the Work, along with payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached and any other evidence required by the Owner, Construction Manager or Architect to demonstrate that cash disbursements already made by the Contractor on account of the Cost of the Work equal or exceed (1) progress payments already received by the Contractor; less (2) that portion of those payments attributable to the Contractor’s Fee; plus (3) payrolls for the period covered by the present Application for Payment.

§ 5.1.5.2 Applications for Payment shall show the Cost of the Work actually incurred by the Contractor through the end of the period covered by the Application for Payment and for which the Contractor has made or intends to make actual payment prior to the next Application for Payment.

§ 5.1.5.3 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

.1 Take the Cost of the Work as described in Exhibit A, Determination of the Cost of the Work;

.2 Add the Contractor’s Fee, less retainage of « » percent (« » %). The Contractor’s Fee shall be computed upon the Cost of the Work described in that Section at the rate stated in that Section; or if the Contractor’s Fee is stated as a fixed sum, an amount which bears the same ratio to that fixed-sum Fee as the Cost of the Work bears to a reasonable estimate of the probable Cost of the Work upon its completion;

.3 Subtract retainage of « » percent (« » %) from that portion of the Work that the Contractor self-performs;

.4 Subtract the aggregate of previous payments made by the Owner;

.5 Subtract the shortfall, if any, indicated by the Contractor in the documentation required by Article 5 or resulting from errors subsequently discovered by the Owner’s auditors in such documentation; and

.6 Subtract amounts, if any, for which the Construction Manager or Architect has withheld or withdrawn a Certificate for Payment as provided in Section 9.5 of AIA Document A232™–2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition.
§ 5.1.5.4 The Owner, Construction Manager and Contractor shall agree upon (1) a mutually acceptable procedure for review and approval of payments to Subcontractors and (2) the percentage of retainage held on Subcontracts, and the Contractor shall execute subcontracts in accordance with those agreements.

§ 5.1.5.5 In taking action on the Contractor’s Applications for Payment, the Construction Manager and Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Contractor and shall not be deemed to represent that the Construction Manager and Architect have made a detailed examination, audit or arithmetic verification of the documentation submitted in accordance with Article 5 or other supporting data; that the Construction Manager and Architect have made exhaustive or continuous on-site inspections; or that the Construction Manager and Architect have made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits and verifications, if required by the Owner, will be performed by the Owner’s auditors acting in the sole interest of the Owner.

§ 5.1.5.6 Except with the Owner’s prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.1.6 Progress Payments Where the Contract Sum is Based on the Cost of the Work with a Guaranteed Maximum Price
§ 5.1.6.1 With each Application for Payment, the Contractor shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner or Architect to demonstrate that cash disbursements already made by the Contractor on account of the Cost of the Work equal or exceed (1) progress payments already received by the Contractor; less (2) that portion of those payments attributable to the Contractor’s Fee; plus (3) payrolls for the period covered by the present Application for Payment.

§ 5.1.6.2 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Construction Manager and Architect may require. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor’s Applications for Payment.

§ 5.1.6.3 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment. The percentage of completion shall be the lesser of (1) the percentage of that portion of the Work which has actually been completed; or (2) the percentage obtained by dividing (a) the expense that has actually been incurred by the Contractor on account of that portion of the Work for which the Contractor has made or intends to make actual payment prior to the next Application for Payment by (b) the share of the Guaranteed Maximum Price allocated to that portion of the Work in the schedule of values.

§ 5.1.6.4 Subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

.1 Take that portion of the Guaranteed Maximum Price properly allocable to completed Work as determined by multiplying the percentage of completion of each portion of the Work by the share of the Guaranteed Maximum Price allocated to that portion of the Work in the schedule of values.

.2 Add the Contractor’s Fee, less retainage of \( \frac{x}{y} \) percent \( (\% \% \%) \). The Contractor’s Fee shall be computed upon the Cost of the Work at the rate stated in Section 4.4.2 or, if the Contractor’s Fee is stated as a fixed sum in that Section, shall be an amount that bears the same ratio to that fixed-sum fee as the Cost of the Work bears to a reasonable estimate of the probable Cost of the Work upon its completion;

.3 Subtract retainage of \( \frac{x}{y} \) percent \( (\% \% \%) \) from that portion of the Work that the Contractor self-performs;

.4 Subtract the aggregate of previous payments made by the Owner;
.6 Subtract the shortfall, if any, indicated by the Contractor in the documentation required by Section 5.1.6.1 to substantiate prior Applications for Payment, or resulting from errors subsequently discovered by the Owner’s auditors in such documentation; and

.7 Subtract amounts, if any, for which the Construction Manager or Architect have withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A232–2009.

§ 5.1.6.5 The Owner and the Contractor shall agree upon a (1) mutually acceptable procedure for review and approval of payments to Subcontractors and (2) the percentage of retainage held on Subcontracts, and the Contractor shall execute subcontracts in accordance with those agreements.

§ 5.1.6.6 In taking action on the Contractor’s Applications for Payment, the Construction Manager and Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Contractor and shall not be deemed to represent that the Construction Manager or Architect have made a detailed examination, audit or arithmetic verification of the documentation submitted in accordance with Section 5.1.6.1 or other supporting data; that the Construction Manager or Architect have made exhaustive or continuous on-site inspections; or that the Construction Manager or Architect have made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits and verifications, if required by the Owner, will be performed by the Owner’s auditors acting in the sole interest of the Owner.

§ 5.1.6.7 Except with the Owner’s prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor’s responsibility to correct Work as provided in Section 12.2 of AIA Document A232–2009, and to satisfy other requirements, if any, which extend beyond final payment;

.2 the Contractor has submitted a final accounting for the Cost of the Work, pursuant to Exhibit A, Determination of the Cost of the Work when payment is on the basis of the Cost of the Work, with or without a Guaranteed Maximum payment; and

.3 a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect; such final payment shall be made by the Owner not more than 30 days after the issuance of the final Certificate for Payment or Project Certificate for Payment, or as follows:

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A232–2009, unless the parties appoint below another individual, not a party to this Agreement, to serve as Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A232–2009, the method of binding dispute resolution shall be as follows:

(Change the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)

ARTICLE 7   TERMINATION OR SUSPENSION

§ 7.1 Where the Contract Sum is a Stipulated Sum

§ 7.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2009.

§ 7.1.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2009.

§ 7.2 Where the Contract Sum is Based on the Cost of the Work with or without a Guaranteed Maximum Price

§ 7.2.1 Subject to the provisions of Section 7.2.2 below, the Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2009.

§ 7.2.2 The Contract may be terminated by the Owner for cause as provided in Article 14 of AIA Document A232–2009; however, the Owner shall then only pay the Contractor an amount calculated as follows:

  .1 Take the Cost of the Work incurred by the Contractor to the date of termination;

  .2 Add the Contractor’s Fee computed upon the Cost of the Work to the date of termination at the rate stated in Sections 4.3.2 or 4.4.2, as applicable, or, if the Contractor’s Fee is stated as a fixed sum, an amount that bears the same ratio to that fixed-sum Fee as the Cost of the Work at the time of termination bears to a reasonable estimate of the probable Cost of the Work upon its completion; and

  .3 Subtract the aggregate of previous payments made by the Owner.

§ 7.2.3 If the Owner terminates the Contract for cause when the Contract Sum is based on the Cost of the Work with a Guaranteed Maximum Price, and as provided in Article 14 of AIA Document A232–2009, the amount, if any, to be paid to the Contractor under Section 14.2.4 of AIA Document A232–2009 shall not cause the Guaranteed Maximum Price to be exceeded, nor shall it exceed the amount calculated in Section 7.2.2.

§ 7.2.4 The Owner shall also pay the Contractor fair compensation, either by purchase or rental at the election of the Owner, for any equipment owned by the Contractor that the Owner elects to retain and that is not otherwise included in the Cost of the Work under Section 7.2.1. To the extent that the Owner elects to take legal assignment of subcontracts and purchase orders (including rental agreements), the Contractor shall, as a condition of receiving the payments referred to in this Article 7, execute and deliver all such papers and take all such steps, including the legal assignment of such subcontracts and other contractual rights of the Contractor, as the Owner may require for the purpose of fully vesting in the Owner the rights and benefits of the Contractor under such subcontracts or purchase orders.

§ 7.2.5 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2009; in such case, the Contract Sum and Contract Time shall be increased as provided in Section 14.3.2 of AIA Document A232–2009, except that the term ‘profit’ shall be understood to mean the Contractor’s Fee as described in Sections 4.3.2 and 4.4.2 of this Agreement.

ARTICLE 8   MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A232–2009 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)
§ 8.3 The Owner’s representative:
(Name, address and other information)

§ 8.4 The Contractor’s representative:
(Name, address and other information)

§ 8.5 Neither the Owner's nor the Contractor’s representative shall be changed without ten days written notice to the other party.

§ 8.6 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is this executed AIA Document A132–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition.


§ 9.1.3 The Supplementary and other Conditions of the Contract:

<table>
<thead>
<tr>
<th>Document</th>
<th>Title</th>
<th>Date</th>
<th>Pages</th>
</tr>
</thead>
</table>

§ 9.1.4 The Specifications:
(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Date</th>
<th>Pages</th>
</tr>
</thead>
</table>

§ 9.1.5 The Drawings:
(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Date</th>
</tr>
</thead>
</table>
§ 9.1.6 The Addenda, if any:

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Pages</th>
</tr>
</thead>
</table>

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents are:

2. AIA Document E201™–2007, Digital Data Protocol Exhibit, if completed, or the following:

   « »

3. AIA Document E202™–2008, Building Information Modeling Protocol Exhibit, if completed, or the following:

   « »

4. Other documents, if any, listed below:

   (List here any additional documents which are intended to form part of the Contract Documents. AIA Document A232–2009 provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor’s bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

   « »

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A232–2009.

(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A232–2009.)

<table>
<thead>
<tr>
<th>Type of Insurance or Bond</th>
<th>Limit of Liability or Bond Amount ($0.00)</th>
</tr>
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</table>

This Agreement is entered into as of the day and year first written above.

OWNER (Signature)  

CONTRACTOR (Signature)  

(Printed name and title)  

(Printed name and title)
SECTION 00 52 00
STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR,
CONSTRUCTION MANAGER AS ADVISER EDITION (AIA 132 – 2009; 11 PAGES)

END OF SECTION
The following supplements modify the “Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition,” AIA Document A132-2009. Where a portion of the Standard Form of Agreement is modified or deleted by the following, the unaltered portions of the Standard Form of Agreement shall remain in effect.

ARTICLE 5: PAYMENTS

5.1 PROGRESS PAYMENTS

5.1.3 Delete paragraph 5.1.3 in its entirety and replace with the following:

“Provided that a valid Application for Payment is received by the Construction Manager that meets all requirements of the Contract, payment shall be made by the Owner not later than 30 days after the Owner receives the valid Application for Payment.”

ARTICLE 6: DISPUTE RESOLUTION

6.2 BINDING DISPUTE RESOLUTION

Check Other – and add the following sentence:

"Any remedies available in law or in equity."

ARTICLE 8: MISCELLANEOUS PROVISIONS

8.2 Insert the following:

"Payments are due 30 days after receipt of a valid Application for Payment. After that 30 day period, interest may be charged at the rate of 1% per month not to exceed 12% per annum."

8.5 Delete paragraph 8.5 in its entirety and replace with the following:

“The Contractor’s representative shall not be changed without ten days written notice to the Owner.”

END OF SECTION
BOND NO. ____________________________

KNOW ALL MEN BY THESE PRESENTS:

That ______________________________________

as Principal, hereinafter called Principal, and ______________________________________

(here insert the name, address and state of incorporation of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto The State of Delaware as Obligee, hereinafter called Obligee, in the amount of ____________________________ Dollars ($ ____________) for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal has by written agreement dated ________________ entered into Contract No __________ with Obligee for ____________________________,

in accordance with drawings and specifications prepared by ____________________________

which Contract is by reference made a part hereof and is hereinafter referred as a Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such, that if the above bounden Principal shall well and truly perform all the undertakings, covenants, terms, conditions, schedules, warranties, guarantees, and agreements of said Contract, and shall well and truly perform all the undertakings, covenants, terms, conditions, schedules, warranties, guarantees, and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, and shall pay to said Obligee and save harmless said Obligee of and from any and all loss, damage, expense, interest, costs, attorney’s fees, and statutory liabilities, fines or penalties of any kind, including but not limited to treble damages, which the said Obligee may sustain by reason of Principal’s failure so to do, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The said Surety agrees that no change, extension of time, alteration, addition, omission, or other modification of the terms of either the said Contract or the said Prime Contract, or both, or in the said work to be performed, or in the specifications, or in the plans, shall in anywise affect its
oxygen on this Bond, and it does hereby waive notice of any such changes, extensions of time, alterations, additions, omissions, and other modifications.

Whenever Principal shall be declared by the Obligee to be in default under the Contract, the Surety shall, within ten (10) calendar days after notice of default from the Obligee, notify the Obligee of its election either to promptly proceed to remedy the default or promptly proceed to complete the contract in accordance with and subject to its terms and conditions. In the event the Surety does not elect to exercise either of the above stated options, then the Obligee thereupon shall have the remaining work completed, Surety to remain liable hereunder for all expenses, including attorney’s fees, of completion.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their several seals this ____ day of ______________________, ____., the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

________________________________________________________________________
Principal

(Seal)

Witness:

________________________________________________________________________
Bonding Agent

________________________________________________________________________
Address

________________________________________________________________________
Phone

________________________________________________________________________
By: ____________________________
Signature

Name and title - type or print

________________________________________________________________________
Surety

________________________________________________________________________
By: ____________________________
Signature  Attorney-in-Fact

END OF SECTION
PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS, that we, ____________________, as principal ("Principal"), and ____________________, a ____________________ corporation, legally authorized to do business in the State of Delaware, as surety ("Surety"), are held and firmly bound unto the ________________________________ ("Owner") (insert State agency name), in the amount of _________________ ($___________), to be paid to Owner, for which payment well and truly to be made, we do bind ourselves, our and each and every of our heirs, executors, administrations, successors and assigns, jointly and severally, for and in the whole firmly by these presents.

Sealed with our seals and dated this _____________ day of____________, 20__. 

NOW THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, who has been awarded by Owner that certain contract known as Contract No. ____________ dated the _______ day of ___________, 20__ (the “Contract”), which Contract is incorporated herein by reference, shall well and truly pay all and every person furnishing materials or performing labor or service in and about the performance of the work under the Contract, all and every sums of money due him, her, them or any of them, for all such materials, labor and service for which Principal is liable, shall make good and reimburse Owner sufficient funds to pay such costs in the completion of the Contract as Owner may sustain by reason of any failure or default on the part of Principal, and shall also indemnify and save harmless Owner from all costs, damages and expenses arising out of or by reason of the performance of the Contract and for as long as provided by the Contract; then this obligation shall be void, otherwise to be and remain in full force and effect.

Surety, for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of Surety and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition or change in or to the Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any work to be performed or any monies due or to become due thereunder; and Surety hereby waives notice of any and all such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, subcontractors, and other transferees shall have the same effect as to Surety as though done or omitted to be done by or in relation to Principal.

Surety hereby stipulates and agrees that no modifications, omission or additions in or to the terms of the Contract shall in any way whatsoever affect the obligation of Surety and its bond.

Any proceeding, legal or equitable, under this Bond may be brought in any court of competent jurisdiction in the State of Delaware. Notices to Surety or Contractor may be mailed or delivered to them at their respective addresses shown below.
IN WITNESS WHEREOF, Principal and Surety have hereunto set their hand and seals, and such of them as are corporations have caused their corporate seal to be hereto affixed and these presents to be signed by their duly authorized officers, the day and year first above written.

PRINCIPAL

Name: ____________________________

Witness or Attest: Address: ____________________________

By: ____________________________(SEAL)

Name: ____________________________

Title:

(Corporate Seal)

SURETY

Name: ____________________________

Witness or Attest: Address: ____________________________

By: ____________________________(SEAL)

Name: ____________________________

Title:

(Corporate Seal)

END OF SECTION 006100
**Application and Certificate for Payment, Construction Manager as Adviser Edition**

**TO OWNER:**

**PROJECT:** A Blanks

**APPLICATION NO:** 001

**DISTRIBUTION TO:**

- OWNER
- CONSTRUCTION MANAGER
- ARCHITECT
- CONTRACTOR
- FIELD

**FROM CONTRACTOR:**

**VIA CONSTRUCTION MANAGER:**

**VIA ARCHITECT:**

**CONTRACT FOR:** General Construction

### CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. AIA Document G703™, Continuation Sheet, is attached.

1. **ORIGINAL CONTRACT SUM** ................................................................. $0.00
2. **NET CHANGES IN THE WORK** .......................................................... $0.00
3. **CONTRACT SUM TO DATE (Line 1 + 2)** ........................................ $0.00
4. **TOTAL COMPLETED AND STORED TO DATE (Column G on G703)** .... $0.00
5. **RETAI NAGE:**
   - a. % of Completed Work
   - b. % of Stored Material
   - Total Retainage (Lines 5a + 5b, or Total in Column I on G703) ......... $0.00
6. **TOTAL EARNED LESS RETAINAGE** ................................................ $0.00
   - (Line 4 minus Line 5 Total)
7. **LESS PREVIOUS CERTIFICATES FOR PAYMENT** .......................... $0.00
   - (Line 6 from prior Certificate)
8. **CURRENT PAYMENT DUE** ............................................................... $0.00
9. **BALANCE TO FINISH, INCLUDING RETAINAGE** .......................... $0.00
   - (Line 3 minus Line 6)

**SUMMARY OF CHANGES IN THE WORK**

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<tr>
<th>CHANGES</th>
<th>ADDITIONS</th>
<th>DEDUCTIONS</th>
</tr>
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<td>Total changes approved in previous months by Owner</td>
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<td>$0.00</td>
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<tr>
<td>Total approved this month including Construction Change:</td>
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The undersigned Contractor certifies that to the best of the Contractor’s knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

**CONTRACTOR:**

By: ____________________________ Date: ________________

State of: ________________________

County of: _____________________

Subscribed and sworn to before me this day of ________________

[Notary Public] ________________________

My Commission expires: ________________

### CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on evaluations of the Work and the data comprising this application, the Construction Manager and Architect certify to the Owner that to the best of their knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

**AMOUNT CERTIFIED**: $0.00

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

**CONSTRUCTION MANAGER:**

By: ____________________________ Date: ________________

**ARCHITECT:** (NOTE: If Multiple Prime Contractors are responsible for performing portions of the Project, the Architect's Certification is not required.)

By: ____________________________ Date: ________________

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.
## AIA Document G732™ – 2009

**Application and Certificate for Payment, Construction Manager as Adviser Edition**

**TO OWNER:**

**PROJECT:** A Blanks

**APPLICATION NO:** 001

**DISTRIBUTION TO:**

- OWNER
- CONSTRUCTION MANAGER
- ARCHITECT
- CONTRACTOR
- FIELD

**FROM CONTRACTOR:**

**VIA CONSTRUCTION MANAGER:**

**VIA ARCHITECT:**

**CONTRACT FOR:** General Construction

### CONTRACTOR’S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. AIA Document G703™, Continuation Sheet, is attached.

1. **ORIGINAL CONTRACT SUM**
   - $0.00

2. **NET CHANGES IN THE WORK**
   - $0.00

3. **CONTRACT SUM TO DATE (Line 1 ± 2)**
   - $0.00

4. **TOTAL COMPLETED AND STORED TO DATE**
   - $0.00

5. **RETAINEAGE:**
   - a. 0 % of Completed Work
     - (Column D + E on G703: $0.00) = $0.00
   - b. 0 % of Stored Material
     - (Column F on G703: $0.00) = $0.00

   **Total Retainage (Lines 5a + 5b, or Total in Column I on G703):** $0.00

6. **TOTAL EARNED LESS RETAINAGE**
   - (Line 4 minus Line 5 Total) $0.00

7. **LESS PREVIOUS CERTIFICATES FOR PAYMENT**
   - (Line 6 from prior Certificate) $0.00

8. **CURRENT PAYMENT DUE**
   - $0.00

9. **BALANCE TO FINISH, INCLUDING RETAINAGE**
   - (Line 3 minus Line 6) $0.00

### SUMMARY OF CHANGES IN THE WORK

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<th>ADDITIONS</th>
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<td>Total approved this month including Construction Change Directives</td>
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The undersigned Contractor certifies that to the best of the Contractor’s knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

**CONTRACTOR:**

By: [Signature]

Date: [Date]

**STATE OF:** [State]

**COUNTY OF:** [County]

**NOTARY PUBLIC:** [Name]

My Commission expires: [Expiration Date]

**TOTAL RETAINAGE:** $0.00

**CERTIFICATE FOR PAYMENT**

In accordance with the Contract Documents, based on evaluations of the Work and the data comprising this application, the Construction Manager and Architect certify to the Owner that to the best of their knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

**AMOUNT CERTIFIED:** $0.00

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

**CONSTRUCTION MANAGER:**

By: [Signature]

Date: [Date]

**ARCHITECT:** (NOTE: If Multiple Prime Contractors are responsible for performing portions of the Project, the Architect’s Certification is not required.)

By: [Signature]

Date: [Date]

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.
SECTION 00 62 00
APPLICATION & CERTIFICATE FOR PAYMENT (AIA G732 – 2009; 1 PAGE)

END OF SECTION
Continuation Sheet

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.

In tabulations below, amounts are stated to the nearest dollar.

Use Column I on Contracts where variable retainage for line items may apply.

<table>
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<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION OF WORK</th>
<th>SCHEDULED VALUE</th>
<th>WORK COMPLETED</th>
<th>MATERIALS PRESENTLY STORED (NOT IN D OR E)</th>
<th>TOTAL COMPLETED AND STORED TO DATE (D + E + F)</th>
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User Notes: (1446336304)
# Continuation Sheet

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor’s signed certification is attached.

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SECTION 00 62 50
CONTINUATION SHEET FOR G702 (AIA G703 – 1992; 1 PAGE)

END OF SECTION
General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

for the following PROJECT:
(Name, and location or address)

« »
« »

THE CONSTRUCTION MANAGER:
(Name, legal status and address)

« » « » « »
« » « »

THE OWNER:
(Name, legal status and address)

« » « » « »
« » « »

THE ARCHITECT:
(Name, legal status and address)

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ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Documents A132™–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132™–2009, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2009, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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### TABLE OF ARTICLES

1. **GENERAL PROVISIONS**
2. **OWNER**
3. **CONTRACTOR**
4. **ARCHITECT AND CONSTRUCTION MANAGER**
5. **SUBCONTRACTORS**
6. **CONSTRUCTION BY OWNER OR BY OTHER CONTRACTORS**
7. **CHANGES IN THE WORK**
8. **TIME**
9. **PAYMENTS AND COMPLETION**
10. **PROTECTION OF PERSONS AND PROPERTY**
11. **INSURANCE AND BONDS**
12. **UNCOVERING AND CORRECTION OF WORK**
13. **MISCELLANEOUS PROVISIONS**
14. **TERMINATION OR SUSPENSION OF THE CONTRACT**
15. **CLAIMS AND DISPUTES**
INDEX
(Topics and numbers in bold are section headings.)

Acceptance of Nonconforming Work
9.6.6, 9.9.3, 12.3
Acceptance of Work
9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, 12.3

Access to Work
3.16, 6.2.1, 12.1

Accident Prevention
10

Acts and Omissions
3.2.1, 3.2.2, 3.3.2, 3.12.8, 3.18, 8.3.1, 9.5.1, 10.1, 10.2.5, 13.4.2, 13.7

Addenda
1.1.1, 3.11, 4.2.14

Additional Costs, Claims for
3.2.4, 3.7.4, 3.7.5, 6.1.1, 7.3, 9.10.3, 9.10.4, 10.3, 10.4, 15.1.4

Additional Inspections and Testing
4.2.8, 12.2.1, 13.5

Additional Insured
11.1.4

Additional Time, Claims for
3.7.4, 3.7.5, 6.1.1, 7.3, 8.3, 10.3

Administration of the Contract
3.10, 4.2

Advertisement or Invitation to Bid
1.1.1

Aesthetic Effect
4.2.19

Allowances
3.8, 7.3.8

All-risk Insurance
11.3.1, 11.3.1.1

Applications for Payment
4.2.7, 4.2.15, 7.3.9, 9.2, 9.3, 9.4, 9.5.1, 9.7, 9.8.3, 9.10.1, 9.10.3, 9.10.5, 11.1.3, 14.2.4

Approvals
2.1.1, 2.2.2, 2.4, 3.1.4, 3.10.1, 3.10.2, 3.12.4 through 3.12.10, 3.13.2, 3.15.2, 4.2.9, 9.3.2, 13.4.2, 13.5

Arbitration
8.3.1, 11.3.10, 13.1, 15.3.2, 15.4

ARCHITECT
4

Architect, Certificates for Payment
9.4

Architect, Definition of
4.1.1

Architect, Extent of Authority
5.2, 7.1.2, 7.3.7, 7.4, 9.3.1, 9.4, 9.5, 9.8.3, 9.8.4, 9.10.1, 9.10.3, 12.1, 12.2.1, 13.5.1, 13.5.2, 15.1.3, 15.2.1

Architect, Limitations of Authority and Responsibility
2.1.1, 3.12.8, 4.2.1, 4.2.2, 4.2.8, 4.2.13, 5.2.1, 9.6.4, 15.2

Architect’s Additional Services and Expenses
2.4, 11.3.1.1, 12.2.1, 12.2.4, 13.5.2

Architect’s Administration of the Contract
4.2, 9.4, 9.5, 15.2

Architect’s Approvals
3.12.8

Architect’s Authority to Reject Work
4.2.8, 12.1.2, 12.2.1

Architect’s Copyright
1.5

Architect’s Decisions
4.2.8, 7.3.9, 7.4, 8.1.3, 9.2, 9.4, 9.5, 9.8.3, 9.9.2, 13.5.2, 14.2.2, 14.2.4, 15.2

Architect’s Inspections
3.7.4, 4.2, 9.8.3, 9.9.2, 9.10.1, 13.5

Architect’s Instructions
3.2.4, 7.4, 9.4

Architect’s Interpretations
4.2.8, 4.2.17, 4.2.18

Architect’s On-Site Observations
4.2.2, 9.4, 9.5.1, 9.10.1, 12.1.1, 12.1.2, 13.5

Architect’s Project Representative
4.2.16

Architect’s Relationship with Contractor
1.1.2, 1.5, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5, 3.7.4, 3.9.2, 3.9.3, 3.10, 3.11, 3.12.8, 3.16, 3.18, 4.2, 5.2, 6.2.2, 8.2, 11.3.7, 12.1, 13.5

Architect’s Relationship with Construction Manager
1.1.2, 9.3 through 9.10, 10.3, 13.5.1, 10.3, 11.3.7, 13.4.2, 13.5.4

Architect’s Relationship with Subcontractors
1.1.2, 4.2.8, 5.3, 9.6.3, 9.6.4

Architect’s Representations
9.4, 9.5, 9.10.1

Architect’s Site Visits
4.2.2, 9.4, 9.5.1, 9.8.3, 9.9.2, 9.10.1, 13.5

Asbestos
10.3.1

Attorneys’ Fees
3.18.1, 9.10.2, 10.3.3

Award of Other Contracts
6.1.1, 6.1.2

Award of Subcontracts and Other Contracts for Portions of the Work
5.2

Basic Definitions
1.1

Bidding Requirements
1.1.1, 5.2.1, 11.4.1

Binding Dispute Resolution
9.7, 11.3.9, 11.3.10, 13.1, 15.2.5, 15.2.6.1, 15.3.1, 15.3.2, 15.4.1

Boiler and Machinery Insurance
11.3.2
BONDS, INSURANCE AND
11
Bonds, Lien
7.3.7.4, 9.10.3
Bonds, Performance and Payment
7.3.7.4, 9.6.7, 9.10.3, 11.3.9, 11.4
Building Permit
2.2.2, 3.7.1
Capitalization
1.3
Certificate of Substantial Completion
9.8.3, 9.8.4, 9.8.5
Certificates for Payment
4.2.2, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3,
15.1.3
Certificates of Inspection, Testing or Approval
13.5.4
Certificates of Insurance
9.3.2, 9.10.2, 11.1.3
Change Orders
1.1.1, 2.4, 3.4.2, 3.7.4, 3.8.2, 3.11, 3.12.8, 4.2.12,
4.2.13, 4.2.14, 5.2.3, 7.1.1, 7.1.2, 7.2, 7.3.2, 7.3.4,
7.3.6, 7.3.9, 7.3.10, 8.3.1, 9.3.1.1, 9.10.3, 10.3.2,
11.3.1.2, 11.3.4, 11.3.9, 12.1.2, 15.1.3
Change Orders, Definition of
7.2
Changes
7.1
CHANGES IN THE WORK
2.2.1, 3.4.2, 3.11, 3.12.8, 4.2.13, 4.2.14, 7, 8.3.1,
9.3.1.1
Claims, Definition of
15.1.1
CLAIMS AND DISPUTES
1.1.8, 3.2.4, 3.7.5, 6.1.1, 7.3.9, 8.3.2, 9.3.3, 9.10.3,
9.10.4, 10.3.3, 15, 15.4
Claims for Additional Cost
3.2.4, 3.7.5, 6.1.1, 7.3.9, 9.10.3, 9.10.4, 10.3.2, 10.4,
15.1.4
Claims for Additional Time
3.2.4, 3.7.5, 7, 8.3.2, 10.4, 15.1.5
Concealed or Unknown Conditions, Claims for
3.7
Claims for Damages
3.2.4, 3.18, 6.1.1, 6.2.5, 8.3.2, 9.3.3, 9.5.1.2, 9.10.2,
9.10.5, 10.3.3, 11.1.1, 11.3.5, 11.3.7, 15.1.6
Cleaning Up
3.15, 6.3
Commencement of Statutory Limitation Period
13.7
Commencement of the Work, Definition of
8.1.2
Communications, Owner to Architect
2.2.6
Communications, Owner to Construction Manager
2.2.6
Communications, Owner to Contractor
2.2.6
Communications Facilitating Contract
Administration
3.9.1, 4.2.6
COMPLETION, PAYMENTS AND
9
Completion, Substantial
4.2.15, 8.1.1, 8.1.3, 8.2.3, 9.4.3.3, 9.8, 9.9.1, 9.10.3,
12.2.1, 12.2.2, 13.7
Concealed or Unknown Conditions
3.7.4, 4.2.8, 8.3.1, 10.3
Conditions of the Contract
1.1.1
Consolidation or Joinder
15.4.4
CONSTRUCTION BY OWNER OR BY OTHER
CONTRACTORS
1.1.4, 6
Construction Change Directive, Definition of
7.3.1
Construction Change Directives
1.1.1, 3.4.2, 3.12.8, 4.2.12, 4.2.13, 7.1.1, 7.1.2, 7.3,
9.3.1.1
Construction Manager, Building Permits
2.2.2
Construction Manager, Communications through
4.2.6
Construction Manager, Construction Schedule
3.10.1, 3.10.3
CONSTRUCTION MANAGER
4
Construction Manager, Definition of
4.1.2
Construction Manager, Documents and Samples at
the Site
3.11
Construction Manager, Extent of Authority
3.12.7, 3.12.8, 4.1.3, 4.2.1, 4.2.4, 4.2.5, 4.2.9, 7.1.2,
7.3, 8.3, 9.3.1, 9.4.1, 9.4.2, 9.4.3, 9.8.2, 9.8.3,
9.8.4, 9.9.1, 12.1, 12.2.1, 14.2.2, 14.2.4
Construction Manager, Limitations of Authority and
Responsibility
4.2.5, 4.2.8, 13.4.2
Construction Manager, Submittals
4.2.9
Construction Manager’s Additional Services and
Expenses
12.2.1
Construction Manager’s Administration of the
Contract
4.2, 9.4, 9.5
Construction Manager’s Approval
2.4, 3.10.1, 3.10.2
Construction Manager’s Authority to Reject Work
4.2.8, 12.2.1
Construction Manager’s Decisions
7.3.7, 7.3.9, 9.4.1, 9.5.1

Construction Manager’s Inspections
4.2.8, 9.8.3, 9.9.2

Construction Manager’s On-Site Observations
9.5.1

Construction Manager’s Relationship with Architect
1.1.2, 4.2.1, 4.2.7, 4.2.8, 4.2.9, 4.2.13, 4.2.15, 4.2.16, 4.2.20, 9.2.1, 9.4.2, 9.5, 9.6.1, 9.6.3, 9.8.2, 9.8.3, 9.8.4, 9.9.1, 9.10.1, 9.10.2, 9.10.3, 11.1.3, 12.2.4, 13.5.1, 13.5.2, 13.5.4, 14.2.2, 14.2.4

Construction Manager’s Relationship with Contractor
3.2.2, 3.2.3, 3.3.1, 3.5, 3.10.1, 3.10.2, 3.10.3, 3.11, 3.12.5, 3.12.6, 3.12.7, 3.12.8, 3.12.9, 3.12.10, 3.13.2, 3.14.2, 3.15.2, 3.16, 3.17, 3.18.1, 4.2.4, 4.2.5, 4.2.6, 4.2.9, 4.2.14, 4.2.17, 4.2.20, 5.2, 6.2.1, 6.2.2, 7.1.2, 7.2, 7.3.5, 7.3.7, 7.3.10, 8.3.1, 9.2, 9.3.1, 9.4.1, 9.4.2, 9.7, 9.8.2, 9.8.3, 9.8.4, 9.9.1, 9.10.1, 9.10.2, 9.10.3, 10.1, 10.3, 11.3.7, 12.1, 13.5.1, 13.5.2, 13.5.3, 13.5.4

Construction Manager’s Relationship with Owner
2.2.2, 4.2.1, 10.3.2

Construction Manager’s Relationship with Other Contractors and Owner’s Own Forces
4.2.4

Construction Manager’s Relationship with Subcontractors
4.2.8, 5.3, 9.6.3, 9.6.4

Construction Manager’s Site Visits
9.5.1

Construction Schedules, Contractor’s
3.10, 3.12.1, 3.12.2, 6.1.2, 15.1.5.2

Contingent Assignment of Subcontracts
5.4, 14.2.2.2

Continuing Contract Performance
15.1.3

Contract, Definition of
1.1.2

CONTRACT, TERMINATION OR SUSPENSION OF THE
5.4.1.1, 11.3.9, 14

Contract Administration
3.1.3, 4.2, 9.4, 9.5

Contract Award and Execution, Conditions Related to
3.7.1, 3.10, 5.2, 6.1, 11.1.3, 11.3.6, 11.4.1

Contract Documents, Copies Furnished and Use of
1.5.2, 2.2.5, 5.3

Contract Documents, Definition of
1.1.1

Contract Performance During Arbitration
15.1.3

Contract Sum
3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.2, 7.3, 7.4, 9.1, 9.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.3.1.1, 12.3, 14.2.4, 14.3.2, 15.1.4, 15.2.5

Contract Time
3.7.4, 3.7.5, 4.3.10.2, 5.2.3, 7.2, 7.3.1, 7.3.5, 7.3.10, 7.4, 8.1.1, 8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 14.3.2, 15.1.5.1, 15.2.5

CONTRACTOR
3

Contractor, Definition of
3.1.1

Contractor’s Construction Schedules
3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.5.2

Contractor’s Employees
3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1

Contractor’s Liability Insurance
11.1

Contractor’s Relationship with Other Contractors and Owner’s Own Forces
3.12.5, 3.14.2, 4.2.6, 6.1, 11.3, 12.1.2, 12.2.4

Contractor’s Relationship with Subcontractors
1.2.2, 3.3.2, 3.18, 5.6.2, 9.6.7, 9.10.2, 11.3.1.2, 11.3.7, 11.3.8, 14.2.1.2

Contractor’s Relationship with the Architect
1.1.2, 1.5, 3.2.2, 3.2.3, 3.2.4, 3.4.2, 3.5, 3.7.4, 3.10.1, 3.11, 3.12.6, 3.18, 5.2, 6.2.2, 7.8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3.7, 12, 13.5, 15.1.2, 15.2.1

Contractor’s Relationship with the Construction Manager
1.1.2, 3.2.2, 3.2.3, 3.3.1, 3.5, 3.10.1, 3.10.2, 3.10.3, 3.11, 3.12.5, 3.12.7, 3.12.9, 3.12.10, 3.14.2, 3.15.1, 3.16, 3.17, 3.18, 4.2.4, 4.2.5, 5.2, 6.2.1

Contractor’s Review of Contract Documents
3.2

Contractor’s Right to Stop the Work
9.7

Contractor’s Right to Terminate the Contract
14.1

Contractor’s Submittals
3.10.2, 3.11, 3.12, 4.2.9, 9.2, 9.3, 9.8.2, 9.9.1, 9.10.2, 9.10.3, 11.1.3, 11.4.2

Contractor’s Superintendent
3.9, 10.2.6

Contractor’s Supervision and Construction Procedures
1.2.2, 3.3.2, 3.4.3, 4.2.5, 4.2.7, 6.1, 6.2.4, 7.1.3, 7.3.5, 7.3.7, 8.2, 10, 12, 14, 15.1.3
Contractual Liability Insurance
11.1.1.8, 11.2, 11.3.1.5
Coordination and Correlation
1.2, 3.2, 3.3.1, 3.10, 3.12.6, 6.1.2, 6.2.1
Copies Furnished of Drawings and Specifications
1.5, 2.2.5, 3.11
Copyrights
1.5
Corrections of Work
5.4.2, 12.1, 12.2
Correlation and Intent of the Contract Documents
1.2
Costs
2.4, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3,
7.3.3.3, 7.3.6, 7.3.7, 7.3.8, 7.3.9, 11.3.1.2, 11.3.1.3,
11.3.4, 11.3.9, 12.1, 12.2.1, 13.5, 14
Cutting and Patching
3.14, 6.2.5
Damage to Construction of Owner or Other
Contractors
3.14.2, 6.2.4, 9.5.1.5, 10.2.1.2, 10.2.5, 10.4, 11.1.1,
11.3, 12.2.4
Damage to the Work
3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 11.3.1, 12.2.4
Damages, Claims for
3.2.4, 3.18, 6.1.1, 8.3.2, 10.3.3, 11.1.1, 11.3.5, 11.3.7,
14.2.4, 15.1.6
Damages for Delay
6.1.1, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 15.1.5
Date of Commencement of the Work, Definition of
8.1.2
Date of Substantial Completion, Definition of
8.1.3
Day, Definition of
8.1.4
Decisions of the Architect
3.7.4, 4.2.7, 4.2.8, 4.2.10, 4.2.11, 4.2.13, 4.2.15,
4.2.16, 4.2.17, 4.2.18, 4.2.19, 4.2.20, 7.3.9, 8.1.3,
8.3.1, 9.2, 9.4, 9.5, 9.8.3, 9.8.4, 9.9.1, 10.1.2, 13.5.2,
14.2.2, 14.2.4, 15.1, 15.2
Decisions of the Construction Manager
7.3.7, 7.3.8, 7.3.9, 15.1, 15.2
Decisions to Withhold Certification
9.4.1, 9.5.1, 14.1.1.3
Defective or Nonconforming Work, Acceptance,
Rejection and Correction of
2.3, 2.4, 3.5, 4.2.8, 6.2.5, 9.5.1, 9.6.6, 9.8.2, 9.9.3,
9.10.4, 12.2.1, 12.2.2
Definitions
1.1, 2.1.1, 3.1.1, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 4.1.2,
7.2, 7.3.1, 8.1.1, 9.8.1, 15.1.1
Delays and Extensions of Time
3.2, 3.7.4, 5.2.3, 7.2, 7.3.1, 7.4, 8.3, 9.5.1, 9.7, 9.10.3,
10.4, 14.3.2, 15.1.5, 15.2.5
Disputes
7.3.8, 7.3.9, 9.3, 15.1, 15.2
DISPUTES, CLAIMS AND
3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 15, 15.4
Documents and Samples at the Site
3.11
Drawings, Definition of
1.1.5
Drawings and Specifications, Ownership and Use
1.1.1, 1.5, 2.2.5, 3.11.5
Duty to Review Contract Documents and Field
Conditions
3.2
Effective Date of Insurance
8.2.2, 11.1.2
Emergencies
10.1, 14.1.1.2, 15.1.4
Employees, Contractor’s
3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.1, 3.18.2, 4.2.3, 4.2.6,
10.2, 10.3.3, 11.1.1, 11.3.7, 14.1, 14.2.1.1
Equipment, Labor, Materials and or
1.1.3, 1.1.6, 3.4.5, 3.8.2, 3.8.3, 3.12.2, 3.12.3,
3.13.1, 3.15.1, 4.2.8, 4.2.7, 5.2.1, 6.2.1, 7.3.7, 9.3.2,
9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.2
Execution and Progress of the Work
1.1.3, 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.3.3, 1.4.1, 1.5.1,
3.7.1, 3.10.1, 3.12.1, 3.14.2, 6.2.2, 7.1.3, 7.3.5, 8.2,
9.5.1, 9.9.1, 10.2, 10.3, 12.2, 14.2, 14.3.1, 15.1.3
Extensions of Time
3.2.4, 3.7.4, 5.2.3, 7.2.3, 7.4, 8.3, 9.5.1, 9.7, 10.3.2,
10.4, 14.3, 15.1.5, 15.2.5
Failure of Payment
9.5.1.3, 9.7, 13.6, 14.1.3, 14.1.3, 14.2.1.2, 15.1.4
Faulty Work (See Defective or Nonconforming
Work)
Final Completion and Final Payment
4.2.1, 4.2.15, 9.8.2, 9.10, 11.1.2, 11.1.3, 11.3.1,
11.3.5, 12.3, 15.2.1
Financial Arrangements, Owner’s
2.2.1
GENERAL PROVISIONS
1
Governing Law
13.1
Guarantees (See Warranty and Warranties)
Hazardous Materials
10.2.4, 10.3
Identification of Contract Documents
1.2.1
Identification of Subcontractors and Suppliers
5.2.1
Indemnification
3.18, 9.10.2, 10.3.3, 10.3.5, 10.3.6, 11.3.1.2, 11.3.7
Information and Services Required of the Owner
2.1.2, 2.2, 4.2.6, 6.1.2, 6.2.5, 9.6.1, 9.6.4, 9.8, 9.9.1,
9.10.3, 10.3.2, 10.3.3, 11.2, 11.3.4, 15.1.1, 15.3.2,
14.1.1.4, 14.1.3, 15.1.2
Initial Decision
15.2

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Initial Decision Maker, Definition of
1.1.8
Initial Decision Maker, Extent of Authority
14.2.2, 14.2.4, 15.1.3, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Injury or Damage to Person or Property
3.18.1, 10.2.1, 10.2.2, 10.2.8, 10.3, 10.3.3, 10.4,

Inspections
3.1.3, 3.7.1, 4.2.2, 9.8.2, 9.9.2, 9.10.1, 13.5

Instructions to Bidders
1.1.1

Instructions to the Contractor
3.1.4, 3.3.3, 3.7.1, 4.2.4, 5.2.1, 7.8.2.2, 12.1, 13.5.2

Instruments of Service, Definition of
1.1.7, 1.5, 1.6

Insurance
6.1.1, 7.3.7, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5,

Insurance, Boiler and Machinery
11.3.2

Insurance, Contractor's Liability
11.1

Insurance, Effective Date of
8.2.2, 11.1.2

Insurance, Loss of Use
11.3.3

Insurance, Owner's Liability
11.2

Insurance, Property
10.2.5, 11.3

Insurance, Stored Materials
9.3.2, 11.3.1

INSURANCE AND BONDS
11

Insurance Companies, Consent to Partial Occupancy
9.9.1, 11.3.1.5

Insurance Companies, Settlement with
11.3.10

Intent of the Contract Documents
1.2, 4.2.18, 4.2.19, 7.4

Interest
9.7, 13.6

Interpretation
1.4, 4.2.8, 4.2.17, 4.2.18

Interpretations, Written
4.2.17, 4.2.18, 4.2.20

Joinder and Consolidation of Claims Required
15.4.4

Judgment on Final Award
15.4.2

Labor and Materials, Equipment
1.1.3, 1.1.6, 3.4, 3.8.2, 3.8.3, 3.12.2, 3.12.3, 3.12.6,
3.12.10, 3.13.1, 3.15.1, 5.2.1, 6.2.1, 7.3.7, 9.3.2,
9.3.3, 9.5.1.3, 9.6, 9.10.2, 10.2.1.2, 11.3.1, 14.2.1,
14.2.2

Labor Disputes
8.3.1

Laws and Regulations
3.2.3, 3.2.4, 3.7, 3.13.1, 10.2.2, 10.2.3, 13.5.1, 14.2.1

Liens
2.1.2, 9.3.3, 9.10.2, 9.10.4, 15.2.8

Limitation on Consolidation or Joinder
15.4.4

Limitations, Statutes of
15.4.1

Limitations of Authority
3.12.4, 4.1.3, 4.2.16

Limitations of Liability
9.6.7, 11.1.1, 12.2

Limitations of Time
3.10.1, 4.2.17, 4.2.20, 8.2.1, 9.3.3, 9.6.1, 9.8.4,
9.10.2, 10.2, 11.1.3, 12.1.1, 12.2.2.2, 12.2.5, 13.7,
14.1.1, 15.2.6.1

Loss of Use Insurance
11.3.3

Material Suppliers
1.5.1, 1.5.2, 3.12, 4.2.6, 4.2.8, 9.3.1, 9.3.1.2, 9.3.3,
9.5.3, 9.6.4, 9.6.5, 9.6.7, 9.10.5, 11.3.1

Materials, Hazardous
10.2.4, 10.3

Materials, Labor, Equipment and
1.1.3, 1.1.6, 1.5.1, 1.5.2, 3.4, 3.5, 3.8.2, 3.8.3, 3.12.2,
3.12.3, 3.12.6, 3.12.10, 3.13.1, 5.2.1, 6.2.1, 9.3.1,
9.3.2, 9.3.3, 9.5.1, 9.5.3, 9.6.4, 9.6.5, 9.6.7, 9.10.2,
9.10.5, 10.2.1, 10.2.4, 10.3

Means, Methods, Techniques, Sequences and
Procedures of Construction
3.3.1, 3.12.10, 4.2.5, 4.2.11

Mechanic's Lien
2.1.2, 15.2.8

Mediation
8.3.1, 10.3.5, 15.2.1, 15.2.5, 15.3, 15.4.1

Minor Changes in the Work
1.1.1, 3.12.8, 4.2.13, 7.1, 7.4

MISCELLANEOUS PROVISIONS
13

Modifications, Definition of
1.1.1

Modifications to the Contract
1.1.1, 1.1.2, 3.11, 4.1.3, 4.2.14, 5.2.3, 7, 11.3.1

Mutual Responsibility
6.2

Nonconforming Work, Acceptance of
9.4.3, 9.8.3, 12.3

Nonconforming Work, Rejection and Correction of
2.3, 2.4, 3.2.3, 3.7.3, 9.4.3.3, 9.8.2, 9.8.3, 9.9.1,
11.1.1, 12.2.2.1, 12.2.3, 12.2.4, 12.2.5

Notice
1.5, 2.1.2, 2.2.1, 2.4, 3.2.4, 3.3.1, 3.7.1, 3.7.2, 3.7.5,
3.9.2, 3.12.9, 5.2.1, 6.3, 9.4.1, 9.7, 9.10.1, 9.10.2,
10.2.2, 10.2.6, 10.2.8, 10.3.2, 11.3.6, 12.2.2.1, 13.3,
13.5.1, 13.5.2, 14.1.2, 14.2.2, 14.4.2, 15.1.2, 15.1.4,
15.1.5.1, 15.2, 15.4.1
Notice of Claims
3.7.2, 10.2.8, 15.1.2, 15.4.1
Notice of Testing and Inspections
13.5.1, 13.5.2
Notifications, Permits, Fees and
3.7, 7.3.7, 10.2.2
Observations, On-Site
3.2.1, 9.5.1, 12.1.1
Occupancy
2.2.2, 9.6.6, 9.9, 11.3.1.5
On-Site Inspections
4.2.2, 9.10.1, 9.4.4, 9.5.1
Orders, Written
4.2.7, 4.2.18, 4.2.20
Other Contracts and Contractors
1.1.4, 3.14.2, 4.2.9, 6, 11.3.7, 12.1.2
OWNER
2
Owner, Definition of
2.1.1
Owner, Information and Services Required of the
2.1.2, 2.2, 4.2, 6.1.2, 6.1.3, 6.2.5, 9.3.2, 9.6.1, 9.6.4,
9.9.2, 9.10.2, 10.3.3, 11.2, 11.3, 13.5.1, 13.5.2,
14.1.1, 14.1.3, 15.1.3
Owner's Authority
1.5, 2.1.1, 2.3, 2.4, 3.4.2, 3.12.10, 3.14.2, 4.1.2, 4.1.3,
4.2.8, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2, 7.3.1,
8.2.2, 9.1.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2,
11.3.3, 11.3.10, 12.2.2.1, 12.3, 13.5.2, 14.2, 14.3.1,
14.4, 15.2.7
Owner’s Financial Capability
2.2.1, 13.2.2, 14.1.1
Owner’s Liability Insurance
11.2
Owner’s Relationship with Subcontractors
1.1.2, 5.2.1, 5.3, 5.4.1, 6.9.4, 9.10.2, 14.2.2
Owner’s Right to Carry Out the Work
2.4, 12.2.4, 14.2.2
Owner’s Right to Clean Up
6.3
Owner's Right to Perform Construction with Own
Forces and to Award Other Contracts
6.1
Owner's Right to Stop the Work
2.3
Owner's Right to Suspend the Work
14.3
Owner’s Right to Terminate the Contract
14.2
Ownership and Use of Drawings, Specifications
and Other Instruments of Service
1.1.1, 1.1.5, 1.5, 1.6, 3.11, 3.12.10, 3.17, 4.2.14,
4.2.18, 4.2.20
Partial Occupancy or Use
9.9, 11.3.1.5
Patching, Cutting and
3.14, 6.2.5
Patents and Copyrights, Royalties
3.17
Payment, Applications for
4.2.1, 4.2.7, 4.2.15, 7.3.9, 9.2, 9.3, 9.4, 9.5, 9.7,
9.10.1, 9.10.3, 9.10.5, 11.1.3
Payment, Certificates for
4.2.15, 7.3.9, 9.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1,
9.10.3, 14.1.1.3, 15.1.3
Payment, Failure of
9.4.1, 9.5, 9.7, 14.1.1.3
Payment, Final
4.2.1, 9.8.2, 9.10, 11.1.2, 11.3.1, 11.3.5, 12.3, 15.2.1
Payment Bond, Performance Bond and
5.4.1, 7.3.7, 9.6.7, 9.10.2, 9.10.3, 11, 11.4
Payments, Progress
9.3.1, 9.4.2, 9.6
PAYMENTS AND COMPLETION
9, 14
Payments to Subcontractors
5.4.2, 9.3, 9.5.1.3, 9.5.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7,
9.10.5, 14.2.1.2
PCB
10.3.1
Performance Bond and Payment Bond
5.4.1, 7.3.7, 9.6.7, 9.10.2, 9.10.3, 11, 11.4
Permits, Fees, Notices and Compliance with Laws
2.2.2, 3.7, 7.3.7.4, 10.2.2
PERSONS AND PROPERTY, PROTECTION
OF
10
Polychlorinated Biphenyl
10.3.1
Product Data, Definition of
3.12.2
Product Data and Samples, Shop Drawings
3.11, 3.12, 4.2.9, 4.2.10, 4.2.14
Progress and Completion
8.2, 9.3.1, 9.4.2, 9.6, 9.8, 9.10, 14.2.4, 15.1.6
Progress Payments
9.3.1, 9.4.2, 9.6
Project, Definition of
1.1.4
Project Representatives
4.2.16
Property Insurance
10.2.5, 11.3
Project Schedule
3.10.1, 3.10.3, 3.10.4, 4.2.2, 4.2.3, 4.2.4
PROTECTION OF PERSONS AND PROPERTY
10
Regulations and Laws
1.5, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 4.1.1.9, 9.6.4, 9.9.1,
10.2.2, 11.1, 11.4, 13.1, 13.4, 13.5.1, 13.5.2, 13.6,
14.1.1, 14.2.1, 15.2.8, 15.4
Rejection of Work
3.5, 4.2.8, 12.2.1
Releases of and Waivers and of Liens
9.10.2
Representations
1.3, 2.2.1, 3.5, 3.12, 6.2.2, 8.2.1, 9.3.3, 9.4.3, 9.5.1, 9.8.2, 9.10.1
Representatives
2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.1, 4.2.2, 4.2.10, 5.1.1, 5.1.2, 13.2.1
Requests for Information
4.2.20
Resolution of Claims and Disputes
15
Responsibility for Those Performing the Work
3.3.2, 3.7.3, 3.12.8, 3.18, 4.2.2, 4.2.5, 4.2.8, 5.3, 6.1.2, 6.2, 6.3, 9.5.1, 9.8.2, 10
Retainage
9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3
Review of Contract Documents and Field Conditions by Contractor
1.2.2, 3.2, 3.7.3, 3.12.7
Review of Contractor’s Submittals by Owner, Construction Manager and Architect
3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 5.2, 9.2, 9.8.2
Review of Shop Drawings, Product Data and Samples by Contractor
3.12.5
Rights and Remedies
1.1.2, 2.3, 2.4, 3.7.4, 3.15.2, 4.2.8, 5.3, 5.4, 6.1, 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.2, 12.2.4, 13.4, 14, 15.4
Royalties, Patents and Copyrights
3.17
Rules and Notices for Arbitration
15.4
Safety of Persons and Property
10.2, 10.3, 10.4
Safety Precautions and Programs
3.3.1, 3.12, 4.2.5, 5.3, 10.1, 10.2, 10.3, 10.4
Samples, Definition of
3.12.3
Samples, Shop Drawings, Product Data and
3.11, 3.12, 4.2.9, 4.2.10
Samples at the Site, Documents and
3.11
Schedule of Values
9.2, 9.3.1
Schedules, Construction
3.10, 3.12.1, 3.12.2, 6.1.2, 15.1.5.2
Separate Contracts and Contractors
1.1.4, 3.12.5, 3.14.2, 4.2.6, 4.2.11, 6, 8.3.1, 12.1.2
Shop Drawings, Definition of
3.12.1
Shop Drawings, Product Data and Samples
3.11, 3.12, 4.2.9, 4.2.10, 4.2.14
Site, Use of
3.13, 6.1.1, 6.2.1
Site Inspections
3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2.2, 4.2.3, 4.2.15, 9.4.3.3, 9.8.3, 9.9.2, 9.10.1, 13.5
Site Visits, Architect’s
3.7.4, 4.2.2, 4.2.15, 9.8.3, 9.9.2, 9.10.1, 13.5
Special Inspections and Testing
4.2.8, 12.2.1, 13.5
Specifications, Definition of
1.1.6
Specifications
1.1.1, 1.1.6, 1.2.2, 1.5, 3.11, 3.12.10, 3.17, 4.2.14
Staging Plan
4.2.3
Statute of Limitations
12.2.5, 13.7, 15.4.1.1
Stopping the Work
2.3, 9.7, 10.3, 14.1
Stored Materials
6.2.1, 9.3.2, 10.2.1.2, 10.2.4
Subcontractor, Definition of
5.1.1
SUBCONTRACTORS
5
Subcontractors, Work by
1.2.2, 3.3.2, 3.12.1, 4.2.5, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7
Subcontractual Relations
5.3, 5.4, 9.3.1.2, 9.6.2, 9.6.3, 9.10, 10.2.1, 14.1, 14.2
Submittals
3.2.3, 3.10, 3.11, 3.12, 4.2.9, 4.2.10, 4.2.11, 5.2.1, 5.2.3, 7.3.7, 9.2, 9.3, 9.8, 9.9.1, 9.10.2, 9.10.3, 11.13
Submittal Schedule
3.10.2, 3.12.5, 4.2.9, 4.2.10
Subrogation, Waivers of
6.1.1, 11.3.7
Substantial Completion
8.1.1, 8.1.3, 8.2.3, 9.4.3.3, 9.8, 9.9.1, 9.10.3, 12.2.1, 12.2.2, 13.7
Substantial Completion, Definition of
9.8.1
Substitution of Subcontractors
5.2.3, 5.2.4
Substitution of Architect
4.1.4
Substitution of Construction Manager
4.1.4
Substitutions of Materials
3.4.2, 3.5, 7.3.8
Sub-subcontractor, Definition of
5.1.2
Subsurface Conditions
3.7.4
Successors and Assigns
13.2
Superintendent
3.9, 10.2.6
Supervision and Construction Procedures
1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.3, 4.2.5, 4.2.8, 4.2.9, 4.2.10, 4.2.11, 6.1.3, 6.2.4, 7.1.3, 7.3.7, 8.2, 8.3.1, 9.4.3.3, 10, 12, 14, 15.1.3
Surety
5.4.1.2, 9.8.5, 9.10.2, 9.10.3, 14.2.2, 15.2.7
Surety, Consent of
9.10.2, 9.10.3
Surveys
1.1.7, 2.2.3
Suspension by the Owner for Convenience
14.3
Suspension of the Work
5.4.2, 14.3
Suspension or Termination of the Contract
5.4.1.1, 14
Taxes
3.6, 3.8.2.1, 7.3.7.4
Termination by the Contractor
14.1, 15.1.6
Termination by the Owner for Cause
5.4.1.1, 14.2, 15.1.6
Termination by the Owner for Convenience
14.4
Termination of the Contractor
14.2.2
TERMINATION OR SUSPENSION OF THE CONTRACT
14
Tests and Inspections
3.1.4, 3.3.3, 4.2.2, 4.2.6, 4.2.8, 9.4.3.3, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 12.2.1, 13.5
TIME
8
Time, Delays and Extensions of
3.2.4, 3.7.4, 5.2.3, 7.2, 7.3.1, 7.4, 8.3, 9.5.1, 10.3.2, 14.3.2, 15.1.5, 15.2.5
Time Limits
2.1.2, 2.2, 2.4, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.1, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.4.2, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 11.1.3, 11.4, 12.2, 13.5, 13.7, 14.15
Time Limits on Claims
3.7.4, 10.2.8, 13.7, 15.1.2
Title to Work
9.3.2, 9.3.3
Transmission of Data in Digital Form
1.6
UNCOVERING AND CORRECTION OF WORK
12
Uncovering of Work
12.1
Unforeseen Conditions, Concealed or Unknown
3.7.4, 8.3.1, 10.3
Unit Prices
7.3.3.2, 7.3.4
Use of Documents
1.1.1, 1.5, 2.2.5, 3.12.6, 5.3
Use of Site
3.13, 6.1.1, 6.2.1
Values, Schedule of
9.2, 9.3.1
Waiver of Claims by the Architect
13.4.2
Waiver of Claims by the Construction Manager
13.4.2
Waiver of Claims by the Contractor
9.10.5, 13.4.2, 15.1.6
Waiver of Claims by the Owner
9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.4.2, 14.2.4, 15.1.6
Waiver of CONSEQUENTIAL DAMAGES
14.2.4, 15.1.6
Waiver of Liens
9.10.2, 9.10.4
Waivers of Subrogation
6.1.1, 11.3.7
Warranty
3.5, 4.2.15, 9.3.3, 9.8.4, 9.9.1, 9.10.4, 12.2.2
Weather Delays
15.1.5.2
Work, Definition of
1.1.3
Written Consent
1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.3, 9.3.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 10.3.2, 11.4.1, 13.2, 13.4.2, 15.4.4.2
Written Interpretaotions
4.2.17, 4.2.18
Written Notice
2.3, 2.4, 3.3.1, 3.9, 3.12.9, 3.12.10, 5.2.1, 5.3, 5.4.1.1, 8.2.2, 9.4, 9.5.1, 9.7, 9.10, 10.2.2, 10.3, 11.1.3, 12.2.2, 12.2.4, 13.3, 13.5.2, 14, 15.4.1
Written Orders
1.1.1, 2.3, 3.9, 7, 8.2.2, 12.1, 12.2, 13.5.2, 14.3.1, 15.1.2

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User Notes:
ARTICLE 1  GENERAL PROVISIONS
§ 1.1 Basic Definitions
§ 1.1.1 The Contract Documents. The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement), and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor’s bid or proposal, or portions of addenda relating to bidding requirements.

§ 1.1.2 The Contract. The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect’s consultants, (2) between the Owner and the Construction Manager or the Construction Manager’s consultants, (3) between the Owner and the Architect or the Architect’s consultants, (4) between the Contractor and the Construction Manager or the Construction Manager’s consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of their duties.

§ 1.1.3 The Work. The term “Work” means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor’s obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project. The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by other Multiple Prime Contractors and by the Owner’s own forces, including persons or entities under separate contracts not administered by the Construction Manager.

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

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

§ 1.1.7 Instruments of Service. Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect’s consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker. The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 Correlation and Intent of the Contract Documents
§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.
§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization
Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

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

§ 1.5 Ownership and Use of Drawings, Specifications and Other Instruments of Service
§ 1.5.1 The Architect and the Architect’s consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect, or Architect’s consultants’ reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect’s consultants.

§ 1.6 Transmission of Data in Digital Form
If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER
§ 2.1 General
§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner’s approval or authorization. Except as otherwise provided in Article 4, the Construction Manager and the Architect do not have such authority. The term “Owner” means the Owner or the Owner’s authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic’s lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner’s interest therein.

§ 2.2 Information and Services Required of the Owner
§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner’s obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner’s ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or
the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. Unless otherwise provided under the Contract Documents, the Owner, through the Construction Manager, shall secure and pay for the building permit.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner’s control and relevant to the Contractor’s performance of the Work with reasonable promptness after receiving the Contractor’s written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.2.6 The Owner shall endeavor to forward all communications to the Contractor through the Construction Manager and shall contemporaneously provide the same communications to the Architect about matters arising out of or relating to the Contract Documents.

§ 2.3 Owner’s Right to Stop the Work
If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.4 Owner’s Right to Carry Out the Work
If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner’s expenses and compensation for the Construction Manager’s and Architect’s and their respective consultants’ additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect, after consultation with the Construction Manager. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR
§ 3.1 General
§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term “Contractor” means the Contractor or the Contractor’s authorized representative.

§ 3.1.2 The plural term “Multiple Prime Contractors” refers to persons or entities who perform construction under contracts with the Owner that are administered by the Construction Manager. The term does not include the Owner’s own forces, including persons or entities under separate contracts not administered by the Construction Manager.
§ 3.1.3 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.4 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Construction Manager or Architect in their administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Construction Manager and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information submitted to the Construction Manager in such form as the Construction Manager and Architect may require. It is recognized that the Contractor’s review is made in the Contractor’s capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Construction Manager and Architect any nonconformity discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Construction Manager and Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor’s notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor’s best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instruction concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner, the Construction Manager, and the Architect and shall not proceed with that portion of the Work without further written instructions from the Architect, through the Construction Manager. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.
§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor’s employees, Subcontractors and their agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of the Project already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials
§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect, in consultation with the Construction Manager, and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor’s employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty
The Contractor warrants to the Owner, Construction Manager, and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform with the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor’s warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Construction Manager or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.6 Taxes
The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices, and Compliance with Laws
§ 3.7.1 Unless otherwise provided in the Contract Documents, the Owner, through the Construction Manager, shall secure and pay for the building permit. The Contractor shall secure and pay for other permits, fees, licenses and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner, Construction Manager, and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect
Construction Manager will promptly investigate such conditions and, if the Architect, in consultation with the Construction Manager, determines that they differ materially and cause an increase or decrease in the Contractor’s cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect, in consultation with the Construction Manager, determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner, Construction Manager, and Contractor in writing, stating the reasons. If the Owner or Contractor disputes the Architect’s determination or recommendation, either party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner, Construction Manager, and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances
§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents:
.1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
.2 Contractor’s costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
.3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor’s costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent
§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner and Architect through the Construction Manager, the name and qualifications of a proposed superintendent. The Construction Manager may reply within 14 days to the Contractor in writing stating (1) whether the Owner, the Construction Manager, or the Architect has reasonable objection to the proposed superintendent or (2) that any of them require additional time to review. Failure of the Construction Manager to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner’s consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor’s Construction Schedules
§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner’s and Architect’s information and the Construction Manager’s approval a Contractor’s construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at
appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project schedule to the extent required by the Contract Documents, and shall provide for expedientious and practicable execution of the Work. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor’s Work to avoid conflict with, and as to cause no delay in, the work or activities of other Multiple Prime Contractors or the construction or operations of the Owner’s own forces.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter update it as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Construction Manager’s and Architect’s approval. The Architect and Construction Manager’s approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor’s construction schedule, and (2) allow the Construction Manager and Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall participate with other Contractors, the Construction Manager and Owner in reviewing and coordinating all schedules for incorporation into the Project schedule that is prepared by the Construction Manager. The Contractor shall make revisions to the construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project schedule.

§ 3.10.4 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner, Construction Manager and Architect and incorporated into the approved Project schedule.

§ 3.11 Documents and Samples at the Site
The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These documents shall be available to the Architect and delivered to the Construction Manager for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples
§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect and Construction Manager is subject to the limitations of Sections 4.2.9 through 4.2.11. Informational submittals upon which the Construction Manager and Architect are not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Construction Manager or Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Construction Manager Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the Project submittal schedule approved by the Construction Manager and Architect, or in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Multiple Prime Contractors or the Owner’s own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor’s Shop Drawings, Product Data, Samples and similar submittals with related documents submitted by other Multiple Prime Contractors.
§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner, Construction Manager, and Architect, that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been reviewed and approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect’s approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Construction Manager and Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect’s approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Construction Manager and Architect on previous submittals. In the absence of such written notice, the Architect’s approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor’s responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional’s written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 Use of Site
§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 The Contractor shall coordinate the Contractor’s operations with, and secure the approval of, the Construction Manager before using any portion of the site.

§ 3.14 Cutting and Patching
§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.
§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner’s own forces or of other Multiple Prime Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner’s own forces or by other Multiple Prime Contractors except with written consent of the Construction Manager, Owner and such other Multiple Prime Contractors; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the other Multiple Prime Contractors or the Owner the Contractor’s consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up
§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work the Contractor shall remove waste materials, rubbish, the Contractor’s tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner, or Construction Manager with the Owner’s approval, may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work
The Contractor shall provide the Owner, Construction Manager and Architect access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights
The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner, Construction Manager and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner, Architect, or Construction Manager. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect through the Construction Manager.

§ 3.18 Indemnification
§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Construction Manager, Architect, Construction Manager’s and Architect’s consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys’ fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers’ compensation acts, disability benefit acts or other employee benefit acts.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER
§ 4.1 General
§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.
§ 4.1.2 The Owner shall retain a construction manager lawfully licensed to practice construction management or an entity lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.3 Duties, responsibilities and limitations of authority of the Construction Manager and Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Construction Manager, Architect and Contractor. Consent shall not be unreasonably withheld.

§ 4.1.4 If the employment of the Construction Manager or Architect is terminated, the Owner shall employ a successor construction manager or architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Construction Manager or Architect, respectively.

§ 4.2 Administration of the Contract
§ 4.2.1 The Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner’s representatives during construction until the date the Architect issues the final Certificate for Payment. The Construction Manager and Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner and Construction Manager (1) known deviations from the Contract Documents and from the most recent Project schedule prepared by the Construction Manager, and (2) defects and deficiencies observed in the Work.

§ 4.2.3 The Construction Manager shall provide a staffing plan to include one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner reasonably informed of the progress of the Work, and will report to the Owner and Architect (1) known deviations from the Contract Documents and the most recent Project schedule, and (2) defects and deficiencies observed in the Work.

§ 4.2.4 The Construction Manager will schedule and coordinate the activities of the Contractor and other Multiple Prime Contractors in accordance with the latest approved Project schedule.

§ 4.2.5 The Construction Manager, except to the extent required by Section 4.2.4, and Architect will not have control over, or charge of, construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor’s rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1, and neither will be responsible for the Contractor’s failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of or be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work.

§ 4.2.6 Communications Facilitating Contract Administration. Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Construction Manager, and shall contemporaneously provide the same communications to the Architect about matters arising out of or relating to the Contract Documents. Communications by and with the Architect’s consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with other Multiple Prime Contractors shall be through the Construction Manager and shall be contemporaneously provided to the Architect if those communications are about matters arising out of or related to the Contract Documents. Communications by and with the Owner’s own forces shall be through the Owner.
§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor, in accordance with the provisions of Article 9.

§ 4.2.8 The Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents and will notify each other about the rejection. The Construction Manager shall determine in general whether the Work of the Contractor is being performed in accordance with the requirements of the Contract Documents and notify the Owner, Contractor and Architect of defects and deficiencies in the Work. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require additional inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, upon written authorization of the Owner, whether or not such Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, neither the Architect’s nor the Construction Manager’s authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 The Construction Manager will receive and promptly review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data and Samples. Where there are Multiple Prime Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from Contractor and other Multiple Prime Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Construction Manager represents to the Owner and Architect that the Construction Manager has reviewed and recommended them for approval. The Construction Manager’s actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

§ 4.2.10 The Architect will review and approve or take other appropriate action upon the Contractor’s submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect’s action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect’s professional judgment to permit adequate review. Upon the Architect’s completed review, the Architect shall transmit its submittal review to the Construction Manager.

§ 4.2.11 Review of the Contractor’s submittals by the Construction Manager and Architect is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Construction Manager and Architect’s review of the Contractor’s submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Construction Manager and Architect’s review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Construction Manager and Architect, of any construction means, methods, techniques, sequences or procedures. The Architect’s approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.12 The Construction Manager will prepare Change Orders and Construction Change Directives.

§ 4.2.13 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7. and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.14 Utilizing the documents provided by the Contractor, the Construction Manager will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples and similar
required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner upon completion of the Project.

§ 4.2.15 The Construction Manager will assist the Architect in conducting inspections to determine the dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor’s compliance with the requirements of the Contract Documents.

§ 4.2.16 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect’s responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.17 The Architect will interpret and decide matters concerning performance under, and requirements of the Contract Documents on written request of the Construction Manager, Owner or Contractor through the Construction Manager. The Architect’s response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.18 Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith.

§ 4.2.19 The Architect’s decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.20 The Construction Manager will receive and review requests for information from the Contractor, and forward each request for information to the Architect, with the Construction Manager’s recommendation. The Architect will review and respond in writing to the Construction Manager to requests for information about the Contract Documents. The Construction Manager’s recommendation and the Architect’s response to each request will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS
§ 5.1 Definitions
§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term “Subcontractor” is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term “Subcontractor” does not include other Multiple Prime Contractors or subcontractors of other Multiple Prime Contractors.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term “Sub-subcontractor” is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work
§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Construction Manager for review by the Owner, Construction Manager and Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Construction Manager may reply within 14 days to the Contractor in writing stating (1) whether the Owner, the Construction Manager or the Architect has reasonable objection to any such proposed person or entity or, (2) that the
Construction Manager, Architect or Owner requires additional time for review. Failure of the Construction Manager, Owner, or Architect to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor’s Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner, Construction Manager or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations
By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including responsibility for safety of the Subcontractor’s Work, which the Contractor, by these Documents, assumes toward the Owner, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts
§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

1. assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and

2. assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor’s rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor’s compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor Contractor or other entity. If the Owner assigns the subcontract to a successor Contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor Contractor’s obligations under the subcontract.
ARTICLE 6 CONSTRUCTION BY OWNER OR BY OTHER CONTRACTORS
§ 6.1 Owner’s Right to Perform Construction with Own Forces and to Award Other Contracts
§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner’s own forces, which include persons or entities under separate contracts not administered by the Construction Manager, and to award other contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to those including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When the Owner performs construction or operations with the Owner’s own forces including persons or entities under separate contracts not administered by the Construction Manager, the Owner shall provide for coordination of such forces with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner’s own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11 and 12.

§ 6.2 Mutual Responsibility
§ 6.2.1 The Contractor shall afford the Owner’s own forces, Construction Manager and other Multiple Prime Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor’s construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor’s Work depends for proper execution or results upon construction or operations by the Owner’s own forces or other Multiple Prime Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Construction Manager and Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner’s own forces or other Multiple Prime Contractors’ completed or partially completed construction is fit and proper to receive the Contractor’s Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs, including costs that are payable to a separate contractor or to other Multiple Prime Contractors because of the Contractor’s delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of delays, improperly timed activities, damage to the Work or defective construction by the Owner’s own forces or other Multiple Prime Contractors.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner, separate contractors, or other Multiple Prime Contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and other Multiple Prime Contractors shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner’s Right to Clean Up
If a dispute arises among the Contractor, other Multiple Prime Contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Construction Manager, with notice to the Architect, will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK
§ 7.1 General
§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.
§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Construction Manager, Architect and Contractor; a Construction Change Directive requires agreement by the Owner, Construction Manager and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.2 Change Orders
A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager, Architect and Contractor, stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives
§ 7.3.1 A Construction Change Directive is a written order prepared by the Construction Manager and signed by the Owner, Construction Manager and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
.2 Unit prices stated in the Contract Documents or subsequently agreed upon;
.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
.4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Construction Manager and Architect of the Contractor’s agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor’s agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Construction Manager shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Construction Manager may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:
.1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers compensation insurance;
.2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
.5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Construction Manager and Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Construction Manager and Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect determine to be reasonably justified. The interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Construction Manager and Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Construction Manager shall prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work
The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order issued through the Construction Manager and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME
§ 8.1 Definitions
§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term “day” as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion
§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.
§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner, Owner’s own forces, Construction Manager, Architect, any of the other Multiple Prime Contractors or an employee of any of them, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor’s control; or by delay authorized by the Owner pending mediation and arbitration, or by other causes that the Architect, based on the recommendation of the Construction Manager, determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9   PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

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

§ 9.2 Schedule of Values

Where the Contract is based on a Stipulated Sum or Guaranteed Maximum Price, the Contractor shall submit to the Construction Manager, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Construction Manager and Architect may require. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor’s Applications for Payment. In the event there is one Contractor, the Construction Manager shall forward to the Architect the Contractor’s schedule of values. If there are Multiple Prime Contractors responsible for performing different portions of the Project, the Construction Manager shall forward the Multiple Prime Contractors’ schedules of values only if requested by the Architect.

§ 9.3 Applications for Payment

§ 9.3.1 At least fifteen days before the date established for each progress payment, the Contractor shall submit to the Construction Manager an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor’s right to payment as the Owner, Construction Manager or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Construction Manager and Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner’s title to such materials and equipment or otherwise protect the Owner’s interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for
Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor’s knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager’s receipt of the Contractor’s Application for Payment, review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor’s Application and Certificate for Payment to the Architect. Within seven days after the Architect receives the Contractor’s Application for Payment from the Construction Manager, the Architect will either issue to the Owner a Certificate for Payment, with a copy to the Construction Manager, for such amount as the Architect determines is properly due, or notify the Construction Manager and Owner in writing of the Architect’s reasons for withholding certification in whole or in part as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect’s notice of withholding certification.

§ 9.4.2 Where there are Multiple Prime Contractors performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives the Multiple Prime Contractors’ Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Multiple Prime Contractors; (2) prepare a Summary of Contractors’ Applications for Payment by combining information from each Multiple Prime Contractors’ application with information from similar applications for progress payments from other Multiple Prime Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Multiple Prime Contractors; and (5) forward the Summary of Contractors’ Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.3 Within seven days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors’ Applications for Payment from the Construction Manager, the Architect will either issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager, for such amount as the Architect determines is properly due, or notify the Construction Manager and Owner in writing of the Architect’s reasons for withholding certification in whole or in part as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect’s notice of withholding certification to the Contractors.

§ 9.4.4 The Construction Manager’s certification of an Application for Payment or, in the case of Multiple Prime Contractors, a Project Application and Certificate for Payment shall be based upon the Construction Manager’s evaluation of the Work and the information provided as part of the Application for Payment. The Construction Manager’s certification will constitute a representation that, to the best of the Construction Manager’s knowledge, information and belief, the Work has progressed to the point indicated and the quality of the Work is in accordance with the Contract Documents. The certification will also constitute a recommendation to the Architect and Owner that the Contractor be paid the amount certified.

§ 9.4.5 The Architect’s issuance of a Certificate for Payment or in the case of Multiple Prime Contractors, Project Application and Certificate for Payment, shall be based upon the Architect’s evaluation of the Work, the recommendation of the Construction Manager, and information provided as part of the Application for Payment or Project Application for Payment. The Architect’s certification will constitute a representation that, to the best of the Architect’s knowledge, information and belief, the Work has progressed to the point indicated, that the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified.

§ 9.4.6 The representations made pursuant to Sections 9.4.4 and 9.4.5 are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Construction Manager or Architect.

§ 9.4.7 The issuance of a separate Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed the Contractor’s construction means, methods, techniques,
sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor’s right to payment or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager’s or Architect’s opinion the representations to the Owner required by Section 9.4.4 and 9.4.5 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.3. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a Certificate for Payment or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager’s or Architect’s opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of defective Work not remedied; third party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor; failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment; reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum; damage to the Owner or a separate contractor; reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect or Construction Manager withholds certification for payment under Section 9.5.1, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Construction Manager and both will reflect such payment on the next Certificate for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Construction Manager and Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor’s portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Construction Manager will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Owner, Construction Manager and Architect on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner, Construction Manager nor
§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 Failure of Payment
If the Construction Manager and Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the Contractor, within fourteen days after the Construction Manager’s receipt of the Contractor’s Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the Construction Manager and Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days’ written notice to the Owner, Construction Manager and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor’s reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion
§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the list, the Architect, assisted by the Construction Manager, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect’s inspection discloses any item, whether or not included on the list, which is not sufficiently complete in accordance with the requirements of the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work or designated portion thereof is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.
§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor and Construction Manager shall jointly prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect after consultation with the Construction Manager.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a written notice that the Work is ready for final inspection and acceptance and shall also forward to the Construction Manager a final Contractor’s Application for Payment. Upon receipt, the Construction Manager will evaluate the completion of Work of the Contractor and then forward the notice and Application, with the Construction Manager’s recommendations, to the Architect who will promptly make such inspection. When the Architect, finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Construction Manager’s and Architect’s final Certificate for Payment or Project Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor’s being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner’s property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days’ prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys’ fees.
§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and Architect, without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect through the Construction Manager prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from
.1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
.2 failure of the Work to comply with the requirements of the Contract Documents; or
.3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY
§ 10.1 Safety Precautions and Programs
The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall submit the Contractor’s safety program to the Construction Manager for review and coordination with the safety programs of other Contractors.

§ 10.2 Safety of Persons and Property
§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to
.1 employees on the Work and other persons who may be affected thereby;
.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor’s Subcontractors or Sub-subcontractors;
.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and
.4 construction or operations by the Owner or other Contractors.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly
§ 10.2.6 The Contractor shall designate a responsible member of the Contractor’s organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor’s superintendent unless otherwise designated by the Contractor in writing to the Owner, Construction Manager and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property
If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials
§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to, asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner, Construction Manager and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor’s written notice, the Owner shall obtain the services of a licensed laboratory to verify a presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor, Construction Manager and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager and the Architect have no reasonable objection. If the Contractor, Construction Manager or Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resumed upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor’s reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Construction Manager, Architect, their consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys’ fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is not due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor’s fault or negligence in the use and handling of such materials or substances.
§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner’s fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies
In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor’s discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS
§ 11.1 Contractor’s Liability Insurance
§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor’s operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:
   .1 Claims under workers’ compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;
   .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor’s employees;
   .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor’s employees;
   .4 Claims for damages insured by usual personal injury liability coverage;
   .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
   .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle; and
   .7 Claims for bodily injury or property damage arising out of completed operations; and
   .8 Claims involving contractual liability insurance applicable to the Contractor’s obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment and, with respect to the Contractor’s completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be submitted to the Construction Manager for transmittal to the Owner with a copy to the Architect prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days’ prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Construction Manager, the Construction Manager’s consultants, the Owner, the Architect, and the Architect’s
consultants as additional insureds for claims caused in whole or in part by the Contractor’s negligent acts or omissions during the Contractor’s operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor’s negligent acts or omissions during the Contractor’s completed operations.

§ 11.2 Owner’s Liability Insurance
The Owner shall be responsible for purchasing and maintaining the Owner’s usual liability insurance.

§ 11.3 Property Insurance
§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder’s risk “all risk” or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an “all-risk” or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for the Architect’s, Contractor’s, and Construction Manager’s services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 Boiler and Machinery Insurance. The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Construction Manager, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 Loss of Use Insurance. The Owner, at the Owner’s option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner’s property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner’s property, including consequential losses due to fire or other hazards however caused.
§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, adjoining or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days’ prior written notice has been given to the Contractor.

§ 11.3.7 Waivers of Subrogation. The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees each of the other, and (2) the Construction Manager, Architect, Architect’s consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as the Owner and Contractor may have to the proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Construction Manager, Construction Manager’s consultants, Architect, Architect’s consultants, Owner’s separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner’s property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner’s duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner’s exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or distribution of insurance proceeds in accordance with the direction of the arbitrators.
§ 11.4 Performance Bond and Payment Bond

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Construction Manager’s or Architect’s request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their observation and be replaced at the Contractor’s expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered which the Construction Manager or Architect has not specifically requested to observe prior to its being covered, the Construction Manager or Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner’s expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor’s expense unless the condition was caused by the Owner or one of the other Contractors in which event the Owner shall be responsible for payment of such costs.

§ 12.2 Correction of Work

§ 12.2.1 Before or After Substantial Completion

The Contractor shall promptly correct Work rejected by the Construction Manager or Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Construction Manager’s and Architect’s services and expenses made necessary thereby, shall be at the Contractor’s expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor’s obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors or other Multiple Prime Contractors caused by the
Contractor’s correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor’s liability with respect to the Contractor’s obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work
If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS
§ 13.1 Governing Law
The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns
§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner’s rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 Written Notice
Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity or to an officer of the corporation for which it was intended; or if delivered at or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 Rights and Remedies
§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Construction Manager, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

§ 13.5 Tests and Inspections
§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Construction Manager and Architect timely notice of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. The Owner shall bear costs of (T) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and
(2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Construction Manager, Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Construction Manager and Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Construction Manager and Architect of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. Such costs except as provided in Section 13.5.3, shall be at the Owner’s expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Construction Manager’s and Architect’s services and expenses shall be at the Contractor’s expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Construction Manager for transmittal to the Architect.

§ 13.5.5 If the Construction Manager or Architect is to observe tests, inspections or approvals required by the Contract Documents, the Construction Manager or Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 Interest
Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

§ 13.7 Time Limits on Claims
The Owner and the Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and the Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT
§ 14.1 Termination by the Contractor
§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;

.3 Because the Construction Manager has not certified or the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or

.4 The Owner has failed to furnish to the Contractor promptly, upon the Contractor’s request, reasonable evidence as required by Section 2.2.1.
§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days’ written notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner payment for Work executed including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner’s obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days’ written notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause
§ 14.2.1 The Owner may terminate the Contract if the Contractor
.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
.2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, after consultation with the Construction Manager, and upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor’s surety, if any, seven days’ written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:
.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
.2 Accept assignment of subcontracts pursuant to Section 5.4; and
.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Construction Manager’s and Architect’s services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall, upon application, be certified by the Initial Decision Maker after consultation with the Construction Manager, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience
§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and the Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent:
§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner’s convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner’s convenience, the Contractor shall:

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner’s convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term “Claim” also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 Notice of Claims. Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Construction Manager and Architect, if the Construction Manager and or Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 Continuing Contract Performance. Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Construction Manager will prepare Change Orders and the Architect will issue a Certificate for Payment or Project Certificate for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 Claims for Additional Cost. If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.3.

§ 15.1.5 Claims for Additional Time

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor’s Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.6 Claims for Consequential Damages. The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes:

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party’s termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker’s sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner’s expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect and Construction Manager, if the Architect or Construction Manager is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor’s default, the Owner may, but is not obligated to, notify the surety and request the surety’s assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic’s lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.
§ 15.3 Mediation
§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings, but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator’s fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration
§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder
§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.
SECTION 00 70 00
GENERAL CONDITIONS TO THE CONTRACT FOR CONSTRUCTION
(AIA 232 – 2009; 43 PAGES)

END OF SECTION
SUPPLEMENTARY GENERAL CONDITIONS A232-2009

The following supplements modify the “General Conditions of the Contract for Construction,” AIA Document A232-2009. Where a portion of the General Conditions is modified or deleted by the Supplementary Conditions, the unaltered portions of the General Conditions shall remain in effect.

TABLE OF ARTICLES

1. GENERAL PROVISIONS
2. OWNER
3. CONTRACTOR
4. ADMINISTRATION OF THE CONTRACT
5. SUBCONTRACTORS
6. CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7. CHANGES IN THE WORK
8. TIME
9. PAYMENTS AND COMPLETION
10. PROTECTION OF PERSONS AND PROPERTY
11. INSURANCE AND BONDS
12. UNCOVERING AND CORRECTION OF WORK
13. MISCELLANEOUS PROVISIONS
14. TERMINATION OR SUSPENSION OF THE CONTRACT
ARTICLE 1: GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS

Delete the last sentence in its entirety and replace with the following:

“The Contract Documents also include Advertisement for Bid, Instructions to Bidder, sample forms, the Bid Form, the Contractor’s completed Bid and the Award Letter.”

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add the following Paragraphs:

1.2.4 In the case of an inconsistency between the Drawings and the Specifications, or within either document not clarified by addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect’s interpretation.

1.2.5 The word “PROVIDE” as used in the Contract Documents shall mean “FURNISH AND INSTALL” and shall include, without limitation, all labor, materials, equipment, transportation, services and other items required to complete the Work.

1.2.6 The word “PRODUCT” as used in the Contract Documents means all materials, systems and equipment.

1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

Delete Paragraph 1.5.1 in its entirety and replace with the following:

“All pre-design studies, drawings, specifications and other documents, including those in electronic form, prepared by the Architect under this Agreement are, and shall remain, the property of the Owner whether the Project for which they are made is executed or not. Such documents may be used by the Owner to construct one or more like Projects without the approval of, or additional compensation to, the Architect. The Contractor, Subcontractors, Sub-subcontractors and Material or Equipment Suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect and the Architect’s consultants appropriate to and for use in the execution of their Work under the Contract Documents. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or Material and Equipment Supplier on other Projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and Architect’s consultants.

The Architect shall not be liable for injury or damage resulting from the re-use of drawings and specifications if the Architect is not involved in the re-use Project.”
Delete Paragraph 1.5.2 in its entirety.

ARTICLE 2: OWNER

2.1 General

2.1.2 Delete Paragraph 2.1.2 in its entirety.

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.2.1 Delete the last sentence in this paragraph.

2.2.3 Add the following sentence:

“The Contractor, at their expense shall bear the costs to accurately identify the location of all underground utilities in the area of their excavation and shall bear all cost for any repairs required, out of failure to accurately identify said utilities.”

2.2.5 Delete Subparagraph 2.2.5 in its entirety and substitute the following:

2.2.5 The Contractor shall be furnished free of charge up to five (5) sets of the Drawings and Project Manuals. Additional sets will be furnished at the cost of reproduction, postage and handling.

ARTICLE 3: CONTRACTOR

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Delete the third sentence in Paragraph 3.2.4.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

Add the following Paragraphs:

3.3.2.1 The Contractor shall immediately remove from the Work, whenever requested to do so by the Owner, any person who is considered by the Owner or Architect to be incompetent or disposed to be disorderly, or who for any reason is not satisfactory to the Owner, and that person shall not again be employed on the Work without the consent of the Owner or the Architect.

3.3.4 The Contractor must provide suitable storage facilities at the Site for the proper protection and safe storage of their materials. Consult the Owner and the Architect before storing any materials.

3.3.5 When any room is used as a shop, storeroom, office, etc., by the Contractor or Subcontractor(s) during the construction of the Work, the Contractor making use of these areas will be held responsible for any repairs, patching or cleaning arising from such use.

3.4 LABOR AND MATERIALS
Add the Following Paragraphs:

3.4.4 Before starting the Work, each Contractor shall carefully examine all preparatory Work that has been executed to receive their Work. Check carefully, by whatever means are required, to insure that its Work and adjacent, related Work, will finish to proper contours, planes and levels. Promptly notify the General Contractor/Construction Manager of any defects or imperfections in preparatory Work which will in any way affect satisfactory completion of its Work. Absence of such notification will be construed as an acceptance of preparatory Work and later claims of defects will not be recognized.

3.4.5 Under no circumstances shall the Contractor’s Work proceed prior to preparatory Work proceeding prior to preparatory Work having been completely cured, dried and/or otherwise made satisfactory to receive this Work. Responsibility for timely installation of all materials rests solely with the Contractor responsible for that Work, who shall maintain coordination at all times.

3.5 WARRANTY

Add the following Paragraphs:

3.5.1 The Contractor will warrant all materials and workmanship against original defects, except injury from proper and usual wear when used for the purpose intended, for one year after Acceptance by the Owner, and will maintain all items in condition that conforms with the Contract Documents during the period of warranty.

3.5.2 Non-conforming work during the period of warranty will be corrected by the Contractor at its expense upon demand of the Owner, it being required that the Work conforms to the Contract Documents at the expiration of the warranty period.

3.5.3 In addition to the General Warranty there are other warranties required for certain items for different periods of time than the one year as above, and are particularly so stated in that part of the specifications referring to same. The said warranties will commence at the same time as the General Warranty.

3.5.4 If the Contractor fails to remedy any failure, defect or damage within a reasonable time after receipt of notice, the Owner will have the right to replace, repair, or otherwise remedy the failure, defect or damage at the Contractor’s expense.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following Paragraphs:

3.11.1 During the course of the Work, the Contractor shall maintain a record set of drawings on which the Contractor shall mark the actual physical location of all piping, valves, equipment, conduit, outlets, access panels, controls, actuators,
including all appurtenances that will be concealed once construction is complete, etc., including all invert elevations.

3.11.2 At the completion of the project, the Contractor shall obtain a set of reproducible drawings from the Architect, and neatly transfer all information outlined in 3.11.1 to provide a complete record of the as-built conditions.

3.11.3 The Contractor shall provide two (2) prints of the as-built conditions, along with the reproducible drawings themselves, to the Owner and one (1) set to the Architect. In addition, attach one complete set to each of the Operating and Maintenance Instructions/Manuals.

3.17 In the second sentence of the paragraph, insert “indemnify and” between “shall” and “hold”.

ARTICLE 4: ARCHITECT AND CONSTRUCTION MANAGER

4.1 General

4.1.2 Insert “As required by law,” at the beginning of the first sentence.

4.2 Administration of the Contract

Delete the first sentence of Paragraph 4.2.10 and replace with the following:

The Architect will review and approve or take other appropriate action upon the Contractor’s submittals such as Shop Drawings, Product Data and Samples for the purpose of checking for conformance with the Contract Documents.

Delete the second sentence of Paragraph 4.2.10 and replace with the following:

The Architect’s action will be taken with such reasonable promptness as to cause no delay in the Work in the activities of the Owner, Contractor or separate Contractors, while allowing sufficient time in the Owner’s professional judgment to permit adequate review.

Add the following to Paragraph 4.2.16:

There will be no full-time project representative provided by the Owner or Architect on this project.

Add to Paragraph 4.2.19 “and in compliance with all applicable codes, regulations and ordinances.” to the end of the sentence.

ARTICLE 5: SUBCONTRACTORS

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

Delete Paragraph 5.2.3 in its entirety and replace with the following:
5.2.3 If the Owner, Architect or Construction Manager has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Architect or Construction Manager has no reasonable objection, subject to the statutory requirements of 29 Delaware Code § 6962(d)(10)b.3 and 4.

ARTICLE 6: CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

Delete Paragraph 6.1.3 in its entirety and replace with the following:

“When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term “Contractor” in the Contract Documents in each case shall mean the Constructor who executes each separate Owner-Contractor Agreement.”

6.2 MUTUAL RESPONSIBILITY

6.2.3 In the second sentence, strike the word “shall” and insert the word “may”.

ARTICLE 7: CHANGES IN THE WORK

(SEE ARTICLE 7: CHANGES IN WORK IN THE GENERAL REQUIREMENTS)

ARTICLE 8: TIME

8.2 PROGRESS AND COMPLETION

Add the following Paragraphs:

8.2.1.1 Refer to Specification Section SUMMARY OF WORK for Contract time requirements.

8.2.4 If the Work falls behind the Progress Schedule as submitted by the Contractor, the Contractor shall employ additional labor and/or equipment necessary to bring the Work into compliance with the Progress Schedule at no additional cost to the Owner.

8.3 DELAYS AND EXTENSION OF TIME

8.3.1 Strike “arbitration” and insert “remedies at law or in equity”.

Add the following Paragraph:

8.3.2.1 The Contractor shall update the status of the suspension, delay, or interruption of the Work with each Application for Payment. (The Contractor shall report the termination of such cause immediately upon the termination thereof.) Failure to comply with this procedure shall constitute a waiver for any claim for adjustment of time or price based upon said cause.
Delete Paragraph 8.3.3 in its entirety and replace with the following:

8.3.3 Except in the case of a suspension of the Work directed by the Owner, an extension of time under the provisions of Paragraph 8.3.1 shall be the Contractor’s sole remedy in the progress of the Work and there shall be no payment or compensation to the Contractor for any expense or damage resulting from the delay.

Add the following Paragraph:

8.3.4 By permitting the Contractor to work after the expired time for completion of the project, the Owner does not waive its rights under the Contract.

8.3.5 The parties agree that Paragraph 8.3.3 of the Supplementary General Conditions does not apply to the Construction Manager in the event of a delay caused by a party other than the Construction Manager.

ARTICLE 9: PAYMENTS AND COMPLETION

9.2 SCHEDULE OF VALUES

Add the following Paragraphs:

9.2.1 The Schedule of Values shall be submitted using AIA Document G732, Continuation Sheet G703.

9.3 APPLICATIONS FOR PAYMENT

Add the following Paragraph:

9.3.1.3 Application for Payment shall be submitted on AIA Document G732 “Application and Certificate for Payment, Construction Manager as Adviser Edition”, supported by AIA Document G703. Said Applications shall be fully executed and notarized.

Add the following Paragraphs:

9.3.4 Until Closeout Documents have been received and outstanding items completed the Owner will pay 95% (ninety-five percent) of the amount due the Contractor on account of progress payments.

9.3.5 The Contractor shall provide a current and updated Progress Schedule to the Architect with each Application for Payment. Failure to provide Schedule will be just cause for rejection of Application for Payment.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

Add the following to 9.5.1:

.8 failure to provide a current Progress Schedule;
9.6 PROGRESS PAYMENTS

Delete Paragraph 9.6.1 in its entirety and replace with the following:

9.6.1 After the Architect and the Construction Manager have approved and issued a Certificate for Payment, payment shall be made by the Owner within 30 days after Owner’s receipt of the Certificate for Payment.

9.7 FAILURE OF PAYMENT

In first sentence, strike the first reference to “seven” and insert “thirty (30)”. Also strike “binding dispute resolution” and insert “remedies at law or in equity”.

9.8 SUBSTANTIAL COMPLETION

9.8.5 In the second sentence, strike “shall” and insert “may”.

ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

Add the following Paragraphs:

10.1.1 Each Contractor shall develop a safety program in accordance with the Occupational Safety and Health Act of 1970. A copy of said plan shall be furnished to the Owner and Architect prior to the commencement of that Contractor’s Work.

10.1.2 Each Contractor shall appoint a Safety Representative. Safety Representatives shall be someone who is on site on a full time basis. If deemed necessary by the Owner or Architect, Contractor Safety meetings will be scheduled. The attendance of all Safety Representatives will be required. Minutes will be recorded of said meetings by the Contractor and will be distributed to all parties as well as posted in all job offices/trailers etc.

10.2 SAFETY OF PERSONS AND PROPERTY

Add the following Paragraph:

10.2.4.1 As required in the Hazardous Chemical Act of June 1984, all vendors supplying any material that may be defined as hazardous must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a caution warning on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in foreseeable emergency situations. Material Safety Data Sheets shall be provided directly to the Owner, along with the shipping slips that include those products.

10.3 HAZARDOUS MATERIALS
Delete Paragraph 10.3.3 in its entirety.

Delete Paragraphs 10.3.6 in its entirety.

**ARTICLE 11: INSURANCE AND BONDS**

11.1 CONTRACTOR’S LIABILITY INSURANCE

11.1.4 Strike “the Owner” immediately following “(1)” and strike “and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor’s negligent acts or omissions during the Contractor’s completed operations.”

11.2 OWNER’S LIABILITY INSURANCE

Delete Paragraph 11.2 in its entirety.

11.3 PROPERTY INSURANCE

Delete Paragraph 11.3 and its subparagraphs in their entirety and replace with the following:

11.3 The Owner will not provide Builder’s All Risk Insurance for the Project. The Contractor and all Subcontractors shall provide property coverage for their tools and equipment, as necessary. Any mandatory deductible required by the Contractor’s Insurance shall be the responsibility of the Contractor.

11.4 PERFORMANCE BOND AND PAYMENT BOND

11.4.1 Add the following sentence: “The bonds will conform to those forms approved by the Office of Management and Budget.”

**ARTICLE 12: UNCOVERING AND CORRECTION OF WORK**

12.2.2 AFTER SUBSTANTIAL COMPLETION

Add the following Paragraph:

12.2.2.1.1 At any time during the progress of the Work, or in any case where the nature of the defects will be such that it is not expedient to have corrected, the Owner, at its option, will have the right to deduct such sum, or sums, of money from the amount of the Contract as it considers justified to adjust the difference in value between the defective work and that required under contract including any damage to the structure.

12.2.2 Strike “one” and insert “two”.

12.2.3 Strike “one” and insert “two”.

12.2.5 In second sentence, strike “one” and insert “two”.

ABHA Architects
Project No. 1630

SUPPLEMENTARY GENERAL CONDITIONS TO THE CONTRACT
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ARTICLE 13: MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

Strike “except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.”

Insert “except that, if the parties have selected arbitration as the method of dispute resolution, the Delaware Arbitration Act, 10 Del. C. §5701, shall govern Section 15.4.”

13.6 INTEREST

Strike “the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.” Insert “30 days of presentment of the authorized Certificate of Payment at the annual rate of 12% or 1% per month.

13.7 TIME LIMITS ON CLAIMS

Strike the last sentence.

Add the following Paragraph:

13.8 CONFLICTS WITH FEDERAL STATUTES OR REGULATIONS

13.8.1 If any provision, specifications or requirement of the Contract Documents conflict or is inconsistent with any statute, law or regulation of the government of the United State of America, the Contractor shall notify the Architect and Owner immediately upon discovery.

ARTICLE 14: TERMINATION OR SUSPENSION OF THE CONTRACT

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

Delete Paragraph 14.4.3 in its entirety and replace with the following:

14.4.3 In case of such termination for the Owner’s convenience, the Contractor shall be entitled to receive payment for Work executed, and cost incurred by reason of such termination along with reasonable overhead.

ARTICLE 15: CLAIMS AND DISPUTES

15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

Delete Paragraph 15.1.6 and its subparagraphs in their entirety.

15.2 INITIAL DECISION

Delete Paragraph 15.2.5 in its entirety and replace with the following:
15.2.5 The Architect will approve or reject Claims by written decision, which shall state the reasons therefore and shall notify the parties of any change in the Contract Sum or Contract Time or both. The approval or rejection of a Claim by the Architect shall be subject to mediation and other remedies at law or in equity.

Delete Paragraph 15.2.6 and its subparagraphs in their entirety.

15.3 MEDIATION

15.3.1 Strike “binding dispute resolution” and insert “any or all remedies at law or in equity”.

15.3.2 In the first sentence, delete “administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedure in effect on the date of the Agreement,”. Also strike “binding dispute resolution” and insert “remedies at law and in equity”.

15.4 ARBITRATION

Delete Paragraph 15.4 and its subparagraphs in their entirety.

END OF SUPPLEMENTARY GENERAL CONDITIONS TO THE CONTRACT

END OF SECTION
SECTION 00 73 50
GENERAL REQUIREMENTS

TABLE OF ARTICLES

1. GENERAL PROVISIONS
2. OWNER
3. CONTRACTOR
4. ADMINISTRATION OF THE CONTRACT
5. SUBCONTRACTORS
6. CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7. CHANGES IN THE WORK
8. TIME
9. PAYMENTS AND COMPLETION
10. PROTECTION OF PERSONS AND PROPERTY
11. INSURANCE AND BONDS
12. UNCOVERING AND CORRECTION OF WORK
13. MISCELLANEOUS PROVISIONS
14. TERMINATION OR SUSPENSION OF THE CONTRACT
ARTICLE 1: GENERAL

1.1 CONTRACT DOCUMENTS

1.1.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary and what is required by one shall be as binding as if required by all. Performance by the Contractor shall be required to an extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

1.1.2 Work including material purchases shall not begin until the Contractor is in receipt of a bonafide State of Delaware Purchase Order. Any work performed or material purchases prior to the issuance of the Purchase Order is done at the Contractor’s own risk and cost.

1.2 EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS

1.2.1 For Public Works Projects financed in whole or in part by state appropriation the Contractor agrees that during the performance of this contract:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex or national origin. The Contractor will take positive steps to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, sex or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.

2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex or national origin.”

ARTICLE 2: OWNER

(NO ADDITIONAL GENERAL REQUIREMENTS – SEE SUPPLEMENTARY GENERAL CONDITIONS)

ARTICLE 3: CONTRACTOR

3.1 Schedule of Values: The successful Bidder shall within twenty (20) days after receiving notice to proceed with the work, furnish to the Owner a complete schedule of values on the various items comprising the work.
Subcontracts: Upon approval of Subcontractors, the Contractor shall award their 
Subcontracts as soon as possible after the signing of their own contract and see that all 
material, their own and those of their Subcontractors, are promptly ordered so that the work 
will not be delayed by failure of materials to arrive on time.

Before commencing any work or construction, the General Contractor is to consult with the 
Owner as to matters in connection with access to the site and the allocation of Ground Areas 
for the various features of hauling, storage, etc.

The Contractor shall supervise and direct the Work, using the Contractor's best skill and 
attention. The Contractor shall be solely responsible for and have control over construction 
means, methods, techniques, sequences and procedures and for coordinating all portions of 
the Work under the Contract, unless the Contract Documents give other specific instructions.

The Contractor shall enforce strict discipline and good order among the Contractor's 
employees and other persons carrying out the Contract. The Contractor shall not permit 
employment of unfit persons or persons not skilled in tasks assigned to them.

The Contractor warrants to the Owner that materials and equipment furnished will be new 
and of good quality, unless otherwise permitted, and that the work will be free from defects 
and in conformance with the Contract Documents. Work not conforming to these 
requirements, including substitutions not properly approved, may be considered defective. If 
required by the Owner, the Contractor shall furnish evidence as to the kind and quality of 
materials and equipment provided.

Unless otherwise provided, the Contractor shall pay all sales, consumer, use and other 
similar taxes, and shall secure and pay for required permits, fees, licenses, and inspections 
necessary for proper execution of the Work.

The Contractor shall comply with and give notices required by laws, ordinances, rules, 
regulations, and lawful orders of public authorities bearing on performance of the Work. 
The Contractor shall promptly notify the Owner if the Drawings and Specifications are 
observed to be at variance therewith.

The Contractor shall be responsible to the Owner for the acts and omissions of the 
Contractor's employees, Subcontractors and their agents and employees, and other persons 
performing portions of the Work under contract with the Contractor.

The Contractor shall keep the premises and surrounding area free from accumulation of 
waste materials or rubbish caused by operations under the Contract. At completion of the 
Work the Contractor shall remove from and about the Project all waste materials, rubbish, 
the Contractor's tools, construction equipment, machinery and surplus materials. The 
Contractor shall be responsible for returning all damaged areas to their original conditions.
3.11 STATE LICENSE AND TAX REQUIREMENTS

3.11.1 Each Contractor and Subcontractor shall be licensed to do business in the State of Delaware and shall pay all fees and taxes due under State laws. In conformance with Section 2503, Chapter 25, Title 30, Delaware Code, "the Contractor shall furnish the Delaware Department of Finance within ten (10) days after entering into any contract with a contractor or subcontractor not a resident of this State, a statement of total value of such contract or contracts together with the names and addresses of the contracting parties."

3.12. The Contractor shall comply with all requirements set forth in Section 6962, Chapter 69, Title 29 of the Delaware Code.

ARTICLE 4: ADMINISTRATION OF THE CONTRACT

4.1 CONTRACT SURETY

4.1.1 PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

4.1.2 All bonds will be required as follows unless specifically waived elsewhere in the Bidding Documents.

4.1.3 Contents of Performance Bonds – The bond shall be in the form approved by the Office of Management and Budget. The bond shall be conditioned upon the faithful compliance and performance by the successful bidder of each and every term and condition of the contract and the proposal, plans, specifications, and bid documents thereof. Each term and condition shall be met at the time and in the manner prescribed by the Contract, Bid documents and the specifications, including the payment in full to every person furnishing materiel or performing labor in the performance of the Contract, of all sums of money due the person for such labor and materiel. (The bond shall also contain the successful bidder’s guarantee to indemnify and save harmless the State and the agency from all costs, damages and expenses growing out of or by reason of the Contract in accordance with the Contract.)

4.1.4 Invoking a Performance Bond – The agency may, when it considers that the interest of the State so require, cause judgment to be confessed upon the bond.

4.1.5 Within twenty (20) days after the date of notice of award of contract, the Bidder to whom the award is made shall furnish a Performance Bond and Labor and Material Payment Bond, each equal to the full amount of the Contract price to guarantee the faithful performance of all terms, covenants and conditions of the same. The bonds are to be issued by an acceptable Bonding Company licensed to do business in the State of Delaware and shall be issued in duplicate.
4.1.6 Performance and Payment Bonds shall be maintained in full force (warranty bond) for a period of two (2) years after the date of the Certificate for Final Payment. The Performance Bond shall guarantee the satisfactory completion of the Project and that the Contractor will make good any faults or defects in his work which may develop during the period of said guarantees as a result of improper or defective workmanship, material or apparatus, whether furnished by themselves or their Sub-Contractors. The Payment Bond shall guarantee that the Contractor shall pay in full all persons, firms or corporations who furnish labor or material or both labor and material for, or on account of, the work included herein. The bonds shall be paid for by this Contractor. The Owner shall have the right to demand that the proof parties signing the bonds are duly authorized to do so.

4.2 FAILURE TO COMPLY WITH CONTRACT

4.2.1 If any firm entering into a contract with the State, or Agency that neglects or refuses to perform or fails to comply with the terms thereof, the Agency which signed the Contract may terminate the Contract and proceed to award a new contract in accordance with this Chapter 69, Title 29 of the Delaware Code or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the Performance Bond. Nothing herein shall preclude the Agency from pursuing additional remedies as otherwise provided by law.

4.3 CONTRACT INSURANCE AND CONTRACT LIABILITY

4.3.1 In addition to the bond requirements stated in the Bid Documents, each successful Bidder shall purchase adequate insurance for the performance of the Contract and, by submission of a Bid, agrees to indemnify and save harmless and to defend all legal or equitable actions brought against the State, any Agency, officer and/or employee of the State, for and from all claims of liability which is or may be the result of the successful Bidder’s actions during the performance of the Contract.

4.3.2 The purchase or nonpurchase of such insurance or the involvement of the successful Bidder in any legal or equitable defense of any action brought against the successful Bidder based upon work performed pursuant to the Contract will not waive any defense which the State, its agencies and their respective officers, employees and agents might otherwise have against such claims, specifically including the defense of sovereign immunity, where applicable, and by the terms of this section, the State and all agencies, officers and employees thereof shall not be financially responsible for the consequences of work performed, pursuant to said contract.

4.4 RIGHT TO AUDIT RECORDS

4.4.1 The Owner shall have the right to audit the books and records of a Contractor or any Subcontractor under any Contract or Subcontract to the extent that the books and records relate to the performance of the Contract or Subcontract.

4.4.2 Said books and records shall be maintained by the Contractor for a period of seven (7) years from the date of final payment under the Prime Contract and by the Subcontractor for a period of seven (7) years from the date of final payment under the Subcontract.
ARTICLE 5: SUBCONTRACTORS

5.1 SUBCONTRACTING REQUIREMENTS

5.1.1 All contracts for the construction, reconstruction, alteration or repair of any public building (not a road, street or highway) shall be subject to the following provisions:

1. A contract shall be awarded only to a Bidder whose Bid is accompanied by a statement containing, for each Subcontractor category, the name and address (city or town and State only – street number and P.O. Box addresses not required) of the subcontractor whose services the Bidder intends to use in performing the Work and providing the material for such Subcontractor category.

2. A Bid will not be accepted nor will an award of any Contract be made to any Bidder which, as the Prime Contractor, has listed itself as the Subcontractor for any Subcontractor unless:

   A. It has been established to the satisfaction of the awarding Agency that the Bidder has customarily performed the specialty work of such Subcontractor category by artisans regularly employed by the Bidder’s firm;

   B. That the Bidder is duly licensed by the State to engage in such specialty work, if the State requires licenses; and

   C. That the Bidder is recognized in the industry as a bona fide Subcontractor or Contractor in such specialty work and Subcontractor category.

5.1.2 The decision of the awarding Agency as to whether a Bidder who lists itself as the Subcontractor for a Subcontractor category shall be final and binding upon all Bidders, and no action of any nature shall lie against any awarding agency or its employees or officers because of its decision in this regard.

5.1.3 After such a Contract has been awarded, the successful Bidder shall not substitute another Subcontractor for any Subcontractor whose name was set forth in the statement which accompanied the Bid without the written consent of the awarding Agency.

5.1.4 No Agency shall consent to any substitution of Subcontractors unless the Agency is satisfied that the Subcontractor whose name is on the Bidders accompanying statement:

   A. Is unqualified to perform the work required;

   B. Has failed to execute a timely reasonable Subcontract;

   C. Has defaulted in the performance on the portion of the work covered by the Subcontract; or

   D. Is no longer engaged in such business.
5.2 PENALTY FOR SUBSTITUTION OF SUBCONTRACTORS

5.2.1 Should the Contractor fail to utilize any or all of the Subcontractors in the Contractor’s Bid statement in the performance of the Work on the public bidding, the Contractor shall be penalized in the amount of (project specific amount*). The Agency may determine to deduct payments of the penalty from the Contractor or have the amount paid directly to the Agency. Any penalty amount assessed against the Contractor may be remitted or refunded, in whole or in part, by the Agency awarding the Contract, only if it is established to the satisfaction of the Agency that the Subcontractor in question has defaulted or is no longer engaged in such business. No claim for the remission or refund of any penalty shall be granted unless an application is filed within one year after the liability of the successful Bidder accrues. All penalty amounts assessed and not refunded or remitted to the contractor shall be reverted to the State.

*one (1) percent of contract amount not to exceed $10,000

5.3 ASBESTOS ABATEMENT

5.3.1 The selection of any Contractor to perform asbestos abatement for State-funded projects shall be approved by the Office of Management and Budget, Division of Facilities Management pursuant to Chapter 78 of Title 16.

5.4 STANDARDS OF CONSTRUCTION FOR THE PROTECTION OF THE PHYSICALLY HANDICAPPED

5.4.1 All Contracts shall conform with the standard established by the Delaware Architectural Accessibility Board unless otherwise exempted by the Board.

5.5 CONTRACT PERFORMANCE

5.5.1 Any firm entering into a Public Works Contract that neglects or refuses to perform or fails to comply with its terms, the Agency may terminate the Contract and proceed to award a new Contract or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the Performance Bond.

ARTICLE 6: CONSTRUCTION BY OWNER OR SEPARATE CONTRACTORS

6.1 The Owner reserves the right to simultaneously perform other construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other Projects at the same site.

6.2 The Contractor shall afford the Owner and other Contractors reasonable opportunity for access and storage of materials and equipment, and for the performance of their activities, and shall connect and coordinate their activities with other forces as required by the Contract Documents.
ARTICLE 7: CHANGES IN THE WORK

7.1 The Owner, without invalidating the Contract, may order changes in the Work consisting of Additions, Deletions, Modifications or Substitutions, with the Contract Sum and Contract completion date being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Professional, as the duly authorized agent, the Contractor and the Owner.

7.2 The Contract Sum and Contract Completion Date shall be adjusted only by a fully executed Change Order.

7.3 The additional cost, or credit to the Owner resulting from a change in the Work shall be by mutual agreement of the Owner, Contractor and the Architect. In all cases, this cost or credit shall be based on the ‘DPE’ wages required and the “invoice price” of the materials/equipment needed.

7.3.1 “DPE” shall be defined to mean “direct personnel expense”. Direct payroll expense includes direct salary plus customary fringe benefits (prevailing wage rates) and documented statutory costs such as workman’s compensation insurance, Social Security/Medicare, and unemployment insurance (a maximum multiplier of 1.35 times DPE).

7.3.2 “Invoice price” of materials/equipment shall be defined to mean the actual cost of materials and/or equipment that is paid by the Contractor, (or subcontractor), to a material distributor, direct factory vendor, store, material provider, or equipment leasing entity. Rates for equipment that is leased and/or owned by the Contractor or subcontractor(s) shall not exceed those listed in the latest version of the “Means Building Construction Cost Data” publication.

7.3.3 In addition to the above, the General Contractor is allowed a fifteen percent (15%) markup for overhead and profit for additional work performed by the General Contractor’s own forces. For additional subcontractor work, the Subcontractor is allowed a fifteen (15) percent overhead and profit on change order work above and beyond the direct costs stated previously. To this amount, the General Contractor will be allowed a mark-up not exceeding seven and one half percent (7.5%) on the subcontractors work. These mark-ups shall include all costs including, but not limited to: overhead, profit, bonds, insurance, supervision, etc. No markup is permitted on the work of the subcontractors subcontractor. No additional costs shall be allowed for changes related to the Contractor’s onsite superintendent/staff, or project manager, unless a change in the work changes the project duration and is identified by the CPM schedule. There will be no other costs associated with the change order.
ARTICLE 8: TIME

8.1 Time limits, if any, are as stated in the Project Manual. By executing the Agreement, the Contractor confirms that the stipulated limits are reasonable, and that the Work will be completed within the anticipated time frame. Should I/We be awarded this contract, I/We pledge to complete all the work required in accordance with the project schedule included in specification section 013210. Should I/We be awarded this contract, and should I/We neglect, fail or refuse to complete my/our Work within the time specified in the project schedule, then I/We do hereby agree to pay the owner as liquidated damages the sum of $1,000 per day. Liquidated damages will be assessed if final completion date, as adjusted by the Construction Manager is not met. Liquidated damages shall apply to all trade contracts. Liquidated damages will be assessed for each day beyond the scheduled date of completion for each trade contractor’s item of work. Assessment will occur upon completion of all contracts and may be incurred by one or multiple contractors determined by the Construction Manager.

8.2 If progress of the Work is delayed at any time by changes ordered by the Owner, by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions, unavoidable casualties or other causes beyond the Contractor's control, the Contract Time shall be extended for such reasonable time as the Owner may determine.

8.3 Any extension of time beyond the date fixed for completion of the construction and acceptance of any part of the Work called for by the Contract, or the occupancy of the building by the Owner, in whole or in part, previous to the completion shall not be deemed a waiver by the Owner of his right to annul or terminate the Contract for abandonment or delay in the matter provided for, nor relieve the Contractor of full responsibility.

8.4 SUSPENSION AND DEBARMENT

8.4.1 Per Section 6962(d)(14), Title 29, Delaware Code, “Any Contractor who fails to perform a public works contract or complete a public works project within the time schedule established by the Agency in the Invitation To Bid, may be subject to Suspension or Debarment for one or more of the following reasons: a) failure to supply the adequate labor supply ratio for the project; b) inadequate financial resources; or, c) poor performance on the Project.”

8.4.2 “Upon such failure for any of the above stated reasons, the Agency that contracted for the public works project may petition the Director of the Office of Management and Budget for Suspension or Debarment of the Contractor. The Agency shall send a copy of the petition to the Contractor within three (3) working days of filing with the Director. If the Director concludes that the petition has merit, the Director shall schedule and hold a hearing to determine whether to suspend the Contractor, debar the Contractor or deny the petition. The Agency shall have the burden of proving, by a preponderance of the evidence, that the Contractor failed to perform or complete the public works project within the time schedule established by the Agency and failed to do so for one or more of the following reasons: a) failure to supply the adequate labor supply ratio for the project; b) inadequate financial resources; or, c) poor performance on the project. Upon a finding in favor of the Agency, the Director may suspend a Contractor from Bidding on any project funded, in whole or in part, with public funds for up to 1 year for a first offense, up to 3 years for a second offense and permanently debar the Contractor for a third offense. The Director shall issue a written decision and shall send a copy to the
8.5 RETAINAGE

8.5.1 Per Section 6962(d)(5) a.3, Title 29, Delaware Code: The Agency may at the beginning of each public works project establish a time schedule for the completion of the project. If the project is delayed beyond the completion date due to the Contractor’s failure to meet their responsibilities, the Agency may forfeit, at its discretion, all or part of the Contractor’s retainage.

8.5.2 This forfeiture of retainage also applies to the timely completion of the punchlist. A punchlist will only be prepared upon the mutual agreement of the Owner, Architect and Contractor. Once the punchlist is prepared, all three parties will by mutual agreement, establish a schedule for its completion. Should completion of the punchlist be delayed beyond the established date due to the Contractor’s failure to meet their responsibilities, the Agency may hold permanently, at its discretion, all or part of the Contractor’s retainage.

ARTICLE 9: PAYMENTS AND COMPLETION

9.1 APPLICATION FOR PAYMENT

9.1.1 Applications for payment shall be made upon AIA Document G702. There will be a five percent (5%) retainage on all Contractor's monthly invoices until completion of the project. This retainage may become payable upon receipt of all required closeout documentation, provided all other requirements of the Contract Documents have been met.

9.1.2 A date will be fixed for the taking of the monthly account of work done. Upon receipt of Contractor's itemized application for payment, such application will be audited, modified, if found necessary, and approved for the amount. Statement shall be submitted to the Owner.

9.1.3 Section 6516, Title 29 of the Delaware Code annualized interest is not to exceed 12% per annum beginning thirty (30) days after the “presentment” (as opposed to the date) of the invoice.

9.2 PARTIAL PAYMENTS

9.2.1 Any public works Contract executed by any Agency may provide for partial payments at the option of the Owner with respect to materials placed along or upon the sites or stored at secured locations, which are suitable for use in the performance of the contract.

9.2.2 When approved by the agency, partial payment may include the values of tested and acceptable materials of a nonperishable or noncontaminative nature which have been produced or furnished for incorporation as a permanent part of the work yet to be completed, provided acceptable provisions have been made for storage.

9.2.2.1 Any allowance made for materials on hand will not exceed the delivered cost of the materials as verified by invoices furnished by the Contractor, nor will it exceed the contract bid price for the material complete in place.
9.2.3 If requested by the Agency, receipted bills from all Contractors, Subcontractors, and material, men, etc., for the previous payment must accompany each application for payment. Following such a request, no payment will be made until these receipted bills have been received by the Owner.

9.3 SUBSTANTIAL COMPLETION

9.3.1 When the building has been made suitable for occupancy, but still requires small items of miscellaneous work, the Owner will determine the date when the project has been substantially completed.

9.3.2 If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and without terminating the Contract, the Owner may make payment of the balance due for the portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment that it shall not constitute a waiver of claims.

9.3.3 On projects where commissioning is included, the commissioning work as defined in the specifications must be complete prior to the issuance of substantial completion.

9.4 FINAL PAYMENT

9.4.1 Final payment, including the five percent (5%) retainage if determined appropriate, shall be made within thirty (30) days after the Work is fully completed and the Contract fully performed and provided that the Contractor has submitted the following closeout documentation (in addition to any other documentation required elsewhere in the Contract Documents):

9.4.1.1 Evidence satisfactory to the Owner that all payrolls, material bills, and other indebtedness connected with the work have been paid,

9.4.1.2 An acceptable RELEASE OF LIENS,

9.4.1.3 Copies of all applicable warranties,

9.4.1.4 As-built drawings,

9.4.1.5 Operations and Maintenance Manuals,

9.4.1.6 Instruction Manuals,

9.4.1.7 Consent of Surety to final payment.

9.4.1.8 The Owner reserves the right to retain payments, or parts thereof, for its protection until the foregoing conditions have been complied with, defective work corrected and all unsatisfactory conditions remedied.
ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY

10.1 The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take all reasonable precautions to prevent damage, injury or loss to: workers, persons nearby who may be affected, the Work, materials and equipment to be incorporated, and existing property at the site or adjacent thereto. The Contractor shall give notices and comply with applicable laws ordinances, rules regulations, and lawful orders of public authorities bearing on the safety of persons and property and their protection from injury, damage, or loss. The Contractor shall promptly remedy damage and loss to property at the site caused in whole or in part by the Contractor, a Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.

10.2 The Contractor shall notify the Owner in the event any existing hazardous material such as lead, PCBs, asbestos, etc. is encountered on the project. The Owner will arrange with a qualified specialist for the identification, testing, removal, handling and protection against exposure or environmental pollution, to comply with applicable regulation laws and ordinances. The Contractor and Architect will not be required to participate in or to perform this operation. Upon completion of this work, the Owner will notify the Contractor and Architect in writing the area has been cleared and approved by the authorities in order for the work to proceed. The Contractor shall attach documentation from the authorities of said approval.

10.3 As required in the Hazardous Chemical Information Act of June 1984, all vendors supplying any materials that may be defined as hazardous, must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a warning caution on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in any foreseeable emergency situation. Material Safety Data Sheets must be provided directly to the Owner along with the shipping slips that include those products.

10.4 The Contractor shall certify to the Owner that materials incorporated into the Work are free of all asbestos. This certification may be in the form of Material Safety Data Sheet (MSDS) provided by the product manufacturer for the materials used in construction, as specified or as provided by the Contractor.

ARTICLE 11: INSURANCE AND BONDS

11.1 The Contractor shall carry all insurance required by law, such as Unemployment Insurance, etc. The Contractor shall carry such insurance coverage as they desire on their own property such as a field office, storage sheds or other structures erected upon the project site that belong to them and for their own use. The Subcontractors involved with this project shall carry whatever insurance protection they consider necessary to cover the loss of any of their personal property, etc.

11.2 Upon being awarded the Contract, the Contractor shall obtain a minimum of two (2) copies of all required insurance certificates called for herein, and submit one (1) copy of each certificate, to the Owner, within 20 days of contract award.
11.3 Bodily Injury Liability and Property Damage Liability Insurance shall, in addition to the coverage included herein, include coverage for injury to or destruction of any property arising out of the collapse of or structural injury to any building or structure due to demolition work and evidence of these coverages shall be filed with and approved by the Owner.

11.4 The Contractor's Property Damage Liability Insurance shall, in addition to the coverage noted herein, include coverage on all real and personal property in their care, custody and control damaged in any way by the Contractor or their Subcontractors during the entire construction period on this project.

11.5 Builders Risk (including Standard Extended Coverage Insurance) on the existing building during the entire construction period, shall not be provided by the Contractor under this contract. The Owner shall insure the existing building and all of its contents and all this new alteration work under this contract during entire construction period for the full insurable value of the entire work at the site. Note, however, that the Contractor and their Subcontractors shall be responsible for insuring building materials (installed and stored) and their tools and equipment whenever in use on the project, against fire damage, theft, vandalism, etc.

11.6 Certificates of the insurance company or companies stating the amount and type of coverage, terms of policies, etc., shall be furnished to the Owner, within 20 days of contract award.

11.7 The Contractor shall, at their own expense, (in addition to the above) carry the following forms of insurance:

11.7.1 Contractor's Contractual Liability Insurance
Minimum coverage to be:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Amount</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodily Injury</td>
<td>$500,000</td>
<td>for each person</td>
</tr>
<tr>
<td></td>
<td>$1,000,000</td>
<td>for each occurrence</td>
</tr>
<tr>
<td></td>
<td>$1,000,000</td>
<td>aggregate</td>
</tr>
<tr>
<td>Property Damage</td>
<td>$500,000</td>
<td>for each occurrence</td>
</tr>
<tr>
<td></td>
<td>$1,000,000</td>
<td>aggregate</td>
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</tbody>
</table>

11.7.2 Contractor's Protective Liability Insurance
Minimum coverage to be:

<table>
<thead>
<tr>
<th>Coverage</th>
<th>Amount</th>
<th>Type</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td></td>
<td>$500,000</td>
<td>aggregate</td>
</tr>
</tbody>
</table>
11.7.3 **Automobile Liability Insurance**

Minimum coverage to be:

| Bodily Injury | $1,000,000 | for each person |
|              | $1,000,000 | for each occurrence |
| Property Damage | $500,000 | per accident |

11.7.4 Prime Contractor's and Subcontractors' policies shall include contingent and contractual liability coverage in the same minimum amounts as 11.7.1 above.

11.7.5 **Workmen's Compensation (including Employer's Liability):**

11.7.5.1 Minimum Limit on employer's liability to be as required by law.

11.7.5.2 Minimum Limit for all employees working at one site.

11.7.6 Certificates of Insurance must be filed with the Owner guaranteeing fifteen (15) days prior notice of cancellation, non-renewal, or any change in coverages and limits of liability shown as included on certificates.

11.7.7 **Social Security Liability**

11.7.7.1 With respect to all persons at any time employed by or on the payroll of the Contractor or performing any work for or on their behalf, or in connection with or arising out of the Contractor’s business, the Contractor shall accept full and exclusive liability for the payment of any and all contributions or taxes or unemployment insurance, or old age retirement benefits, pensions or annuities now or hereafter imposed by the Government of the United States and the State or political subdivision thereof, whether the same be measured by wages, salaries or other remuneration paid to such persons or otherwise.

11.7.7.2 Upon request, the Contractor shall furnish Owner such information on payrolls or employment records as may be necessary to enable it to fully comply with the law imposing the aforesaid contributions or taxes.

11.7.7.3 If the Owner is required by law to and does pay any and/or all of the aforesaid contributions or taxes, the Contractor shall forthwith reimburse the Owner for the entire amount so paid by the Owner.

**ARTICLE 12: UNCOVERING AND CORRECTION OF WORK**

12.1 The Contractor shall promptly correct Work rejected by the Owner or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed, and shall correct any Work found to be not in accordance with the requirements of the Contract Documents within a period of two years from the date of Substantial Completion, or by terms of an applicable special warranty required by the Contract Documents. The provisions of this Article apply to work done by Subcontractors as well as to Work done by direct employees of the Contractor.
12.2 At any time during the progress of the work, or in any case where the nature of the defects shall be such that it is not expedient to have them corrected, the Owner, at their option, shall have the right to deduct such sum, or sums, of money from the amount of the contract as they consider justified to adjust the difference in value between the defective work and that required under contract including any damage to the structure.

ARTICLE 13: MISCELLANEOUS PROVISIONS

13.1 CUTTING AND PATCHING

13.1.1 The Contractor shall be responsible for all cutting and patching. The Contractor shall coordinate the work of the various trades involved.

13.2 DIMENSIONS

13.2.1 All dimensions shown shall be verified by the Contractor by actual measurements at the project site. Any discrepancies between the drawings and specifications and the existing conditions shall be referred to the Owner for adjustment before any work affected thereby has been performed.

13.3 LABORATORY TESTS

13.3.1 Any specified laboratory tests of material and finished articles to be incorporated in the work shall be made by bureaus, laboratories or agencies approved by the Owner and reports of such tests shall be submitted to the Owner. The cost of the testing shall be paid for by the Contractor.

13.3.2 The Contractor shall furnish all sample materials required for these tests and shall deliver same without charge to the testing laboratory or other designated agency when and where directed by the Owner.

13.4 ARCHAEOLOGICAL EVIDENCE

13.4.1 Whenever, in the course of construction, any archaeological evidence is encountered on the surface or below the surface of the ground, the Contractor shall notify the authorities of the Delaware Archaeological Board and suspend work in the immediate area for a reasonable time to permit those authorities, or persons designated by them, to examine the area and ensure the proper removal of the archaeological evidence for suitable preservation in the State Museum.

13.5 GLASS REPLACEMENT AND CLEANING

13.5.1 The General Contractor shall replace without expense to the Owner all glass broken during the construction of the project. If job conditions warrant, at completion of the job the General Contractor shall have all glass cleaned and polished.
13.6 WARRANTY

13.6.1 For a period of two (2) years from the date of substantial completion, as evidenced by the date of final acceptance of the work, the contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect of equipment, material or workmanship performed by the contractor or any of his subcontractors or suppliers. However, manufacturer's warranties and guarantees, if for a period longer than two (2) years, shall take precedence over the above warranties. The contractor shall remedy, at his own expense, any such failure to conform or any such defect. The protection of this warranty shall be included in the Contractor's Performance Bond.

ARTICLE 14: TERMINATION OF CONTRACT

14.1 If the Contractor defaults or persistently fails or neglects to carry out the Work in accordance with the Contract Documents or fails to perform a provision of the Contract, the Owner, after seven days written notice to the Contractor, may make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor. Alternatively, at the Owner's option, and the Owner may terminate the Contract and take possession of the site and of all materials, equipment, tools, and machinery thereon owned by the Contractor and may finish the Work by whatever method the Owner may deem expedient. If the costs of finishing the Work exceed any unpaid compensation due the Contractor, the Contractor shall pay the difference to the Owner.

14.2 “If the continuation of this Agreement is contingent upon the appropriation of adequate state, or federal funds, this Agreement may be terminated on the date beginning on the first fiscal year for which funds are not appropriated or at the exhaustion of the appropriation. The Owner may terminate this Agreement by providing written notice to the parties of such non-appropriation. All payment obligations of the Owner will cease upon the date of termination. Notwithstanding the foregoing, the Owner agrees that it will use its best efforts to obtain approval of necessary funds to continue the Agreement by taking appropriate action to request adequate funds to continue the Agreement.”

END OF SECTION
ATTACHMENTS:

1. Delaware Department of Labor Payroll Report Form

2. Delaware Department of Labor Prevailing Wage Rates for Building Construction

- Included by Reference: The State of Delaware Prevailing Wage Rate Regulations. A copy is available from the Department of Labor by calling 302-761-8200 or online on the State of Delaware’s website. Contractors are required to abide by all requirements issued by the State relating to prevailing wage regulations.

- Contractors are required to submit payroll reports to the Department of Labor. Refer to the State Prevailing Wage regulations and the instructions to bidders section 00 21 13 Article 4.5.
<table>
<thead>
<tr>
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<td>1/7/2019</td>
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**Total Cost of Payroll:** $28,800.00

**Note:** This table represents the total hours worked and the corresponding cost for each date of pay. The total hours are calculated by multiplying the number of days by 8 hours for each date.

---

**An Employer Who Fails To Submit A Report In Full Or On Time May Be Subject To A $100.00 Fine For Each Failure.**
END OF SECTION
## Prevailing Wages for Building Construction Effective March 15, 2019

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<thead>
<tr>
<th>Classification</th>
<th>New Castle</th>
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<td>Truck Drivers</td>
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</table>

**Certified:** 03/15/2019  
**By:** Administrator, Office of Labor Law Enforcement

**Note:** These rates are promulgated and enforced pursuant to the prevailing wage regulations adopted by the Department of Labor on April 3, 1992.

Classifications of workers are determined by the Department of Labor. For assistance in classifying workers, or for a copy of the regulations or classifications, phone 302 761-8200.

Non-registered apprentices must be paid the mechanic's rate.

Project: BSD19001A Claymont Elementary School Renovation Bid pac B masonry, New Castle County
**SECTION 01 12 00 -01**
**SUMMARY OF CONTRACTS / SCOPES OF WORK**

**Bid Packages:** The following is a list of Bid Packages for the BSD – Claymont Elementary School Renovations Masonry Rebid:

<table>
<thead>
<tr>
<th>UNIT OF WORK #</th>
<th>TITLE</th>
<th>BRIEF DESCRIPTION (See Specific Scope for full description)</th>
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</thead>
<tbody>
<tr>
<td>04A</td>
<td>Masonry</td>
<td>CMU, Brick, masonry patching, thru wall flashing</td>
</tr>
</tbody>
</table>

**Request for clarifications:** Direct all questions or concerns in writing to:
The Whiting-Turner Contracting Co., Construction Manager, Attention: Dom Muzzi
via email, dom.muzzi@whiting-turner.com.
All responses will be in the form of an Addendum

END OF SECTION

(ATTACHMENTS FOLLOW – GENERAL SCOPE AND SPECIFIC SCOPES OF WORK)
SECTION 01 12 00-01A

GENERAL SCOPE OF WORK

All work is to be done in accordance with the Contract Documents, including the drawings and the specifications, this scope of work, and all addenda if any. Each trade must comply fully with all sections of the Division 1 general requirements.

This scope is intended as a reference to assist in the bidding process. The Contractor is responsible for all labor, material, tools, equipment, hoisting, storage, layout, incidental work, and associated services necessary to fully complete all of the work described and shown in the Contract Documents. This contractor is responsible to review and include all items in their attached specific scope of work and to also review the work of other trades.

This work includes but is not limited to:

1. All bidders are required to provide 10% bid bond for each bid package submitted.
2. All contractors are required to provide 100% payment and performance bonds for their contract.
3. All contractor employees will be required to sign-in each day on the jobsite.
4. No smoking or vaping on school property.
5. Bidders must also review spec section 013520 Safety Requirements and Loss Control. Include all cost in bid associated with safety requirements.
6. Work hours are 7:00 am to 3:30 pm. All contractors are required to work minimum 5 days per week, 8 hours per day. If day(s) are lost during the work week, all contractors are required to work Saturdays to make up for all lost days at no added cost.
7. During construction, the school will be occupied during the school year, noisy work must take place before or after school hours or during breaks. This includes noises created by chipping hammer, hammer drills, compaction tools, power actuated tools, compressors and tools creating similar dB levels or vibrations. Include cost these shifts in your bid.
8. Each contractor, upon award, is to forward budget costs for each individual item of work, in s.f. or l.f. costs for accounting only. A list will be forwarded to each sub from Whiting-Turner.
9. Each foreman is required to complete daily field reports and turn them into WT daily. This report states where and what work was performed. Failure to submit reports on a daily basis may delay contractor payment.
10. All contractors must comply with 4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees. Public Works Contracts funded all or in part with public funds submit Testing Report Forms to the Owner no less than quarterly.
11. Brandywine School District is pursuing LEED certification on this project. Bidder should review the LEED scorecard and all requirements relating to waste management, sustainable design, VOC limits, and indoor air quality in the specification
12. Deliveries are to be made between 9:00 am and 2:30 pm. No deliveries are to be made during school drop off 8:00 am- 9:00am /pick up 2:30 pm – 4:00 pm . All deliveries must be scheduled in advance with Whiting-Turner. Major deliveries, those that may impact or disrupt the work of other trades, require seven (7) days notice to WT. Minor deliveries require two (2) days notice to WT.
13. WT shall coordinate storage locations for all deliveries.
14. This contractor will execute an AIA contract Brandywine School District with no changes.
15. All contractor employees will meet with the WT Superintendent for a short safety orientation upon starting their work on site. All contractor employees are required to attend this orientation.
16. The foreman and project manager will need to meet with the superintendent for a “pre-start” job meeting.
17. This contractor is responsible for all existing site conditions in existence as of the bid due date. These conditions may not be identified on the drawings or in this scope of work. Examine prior to the bid.

18. All contractors are required to perform all layout required for their work.

19. No gasoline-powered equipment can be used at any time within buildings. All equipment you plan to use must be reviewed with the Superintendent for safety concerns.

20. SDS must be forwarded prior to starting work. No chemicals can be used at any time without properly reviewing them with WT first.

21. Every Contractor will be required to fill out and Activity Hazard Analysis form prior to starting work and update as conditions change.

22. The catwalk of the auditorium is a 100% tie off area., fall protection must be used at all times.

23. All contractors are required to perform any necessary dewatering in order to complete their work.

24. All subcontractors are responsible for daily cleanup of their debris to the jobsite dumpster. This means that no trash or excess construction materials can be left on site or in buildings at the end of the day.

25. The Construction Manager will supply a dumpster for the work, except as noted in the specific scopes of work. The contractor is responsible for placing debris in the dumpster.

26. Storage space will be limited. Materials and gang boxes cannot be in the way of other trades, traffic, fire lanes, access, etc. Review location and requirements with WT. Provide storage trailers or off site storage when necessary. Only materials for current phase should be stored onsite, cost for phased deliveries and storage should be included in bid. CM will not provide utility hook ups for office trailers.

27. Furnish attic stock as required by the drawings, specifications, or the scope of work.

28. Jobsite security and security of materials, equipment, tools, etc. is the responsibility of each contractor.

29. Contractors are required to coordinate with other trades and with Whiting-Turner.

30. Contractors are required to comply with all safety regulations as required by OSHA, State of Delaware, Brandywine School District, Whiting-Turner, and as noted in the specifications. Provide all safety devices necessary for your work. PPE will not be provided by WT. For security and identification purposes, all hardhats shall display the contractor/subcontractor name and/or decal identifying the employer as well as the employee’s name.

31. All change order pricing must be accompanied by a labor and material breakdown and with subcontractor quotes.

32. Care must be taken to not mark or damage finished surfaces. Contractors will be backcharged or will need to pay for repairs to the work of others. Protect the owner’s property.

33. Provide floor and finish protection in limited work areas i.e. auditorium, natatorium and gymnasium during your work. Include cost of protection in base bid or alternate pricing.

34. Roof protection must be provided by any contractor working on top of the completed roof systems. Minimum protection required is 2” rigid insulation and ¾” plywood.

35. If safety, barricades, floor opening protection, etc. are damage, it is that contractor's responsibility to restore the damaged items to a safe condition.

36. Provide all testing, guarantees, warranties, as-built drawings, O&M manuals, commissioning tests, close-out documentation, and start-up services necessary to put all work into first class operating condition per the contract documents including any final cleanup required.

37. As-built drawings must be maintained on the job-site and updated on a daily basis for review by Whiting-Turner. At contract completion, contractor must submit as-built drawings and O&M Manuals as required by specifications.

38. Owner training required by specifications. Training must be videotaped.

39. Where furnishing and installation of work is indicated by separate parties include:
   • Furnishing Party – delivery to jobsite including freight and taxes
• Installing Party – receiving, unloading, inventory, storage, handling, and installation.
40. Core drilling, cutting & patching as required to perform work. Include restoration of surfaces to original condition if required. Cutting to be performed as to minimize patching.
41. Sealants, caulking, and firestopping integral with work.
42. Permit fees and NCC and Delaware licenses required for work, other than the building permit, shall be furnished by the contractor whose work requires such permits.
43. General temporary lighting, 120V power & water will be provided. Any contractor requiring temporary services above and beyond those noted shall provide the necessary temporary service required for their work. Refer to specific scopes of work for contractors that will be required to provide all temporary power and lighting for the duration of their work.
44. Each contractor shall provide scaffolding, hoists, lifts, cranes, and other means of access for own work. Assume new or existing elevators will not be available for moving material.
45. Include premium cost for shutdowns or any other off-hour work. All shutdowns must be scheduled at least two (2) weeks in advance.
46. Phasing and remobilization per the project schedule and as required to properly coordinate and complete the work.
47. Contractor must field measurements and verification of existing conditions prior to ordering materials and starting work.
48. Each contractor is to provide temporary weather and dust protection for own work.
49. Each contractor is to perform any snow removal for access to your work, beyond road areas normally maintained by State.
50. Compliance with local noise restrictions.
51. Temporary sheeting, shoring & bracing as required to perform the work. Engineering calculations/PE certifications if specified.
52. Submittals and mock-ups as specified.
53. Warrantees as specified commencing on date of substantial completion.
54. Insurance as required by specifications. Maintain throughout project. Professional liability insurance for any design/engineering work within your scope.
55. Include all applicable sales, use & excise taxes.
56. Surface preparation and inspection for proper installation of the work. Include clean-up, etching, flash patching, moisture testing, etc. as required per specification and manufacturers instructions. Commencement of work shall constitute acceptance of the substrate as suitable for this work.
57. Sleeves, inserts, and anchors for this work.
58. Additional reinforcement/supports for this work which is not detailed on the architectural and structural drawings.
59. Comply with all Whiting-Turner and Owner Quality Control Program requirements for this work.
60. The contractor must have on site at all times during own work a supervisor or foreman responsible to coordinate the work with all other trades to meet the project schedule, to perform the work to meet the contract documents and to effectively communicate with the construction manager and other trades. The decision of that individual shall be binding upon the contractor.
61. Each Subcontractor shall be responsible for the furnishing and installation of their 2nd Tier (and further tiered) Subcontractor’s work. Each Subcontractor shall provide field management at all times during the installation of this work. The Construction Manager, under no circumstances, shall have direct management responsibilities of any lower tier Subcontractors.
62. Attendance at foreman meetings by the supervisor or foreman is mandatory.
63. Attendance at progress meetings by your project manager is mandatory.
64. After bids are received, contractors will need to attend a scope review meeting with Whiting-Turner, the Owner, and the Architect.
65. The successful contractor must forward Whiting-Turner a copy of their safety program.
66. During this project, hot work permits will need to be obtained from Whiting-Turner prior to proceeding with any such work on a daily basis.

67. All contractors are responsible for their work as shown on any and all drawings.

68. Each contractor must have a line item on their invoice schedule of values that allows 3% of the total contract amount or $2,500 minimum, whichever is greater for close-out documents (as-builts, warranties, operations and maintenance manuals, punchlists, etc.) in addition to 5% retention.

69. Building or site commissioning is to be performed separately from owner training.

70. Only round, heavy-duty (type S, SJO, SJTW, ST, SO, STD) extension cords are acceptable for use on a construction site; at least 12 gauge or larger.

71. All subcontractor foremen and project manager are required to remain as such throughout the duration of the project unless otherwise approved by WT and BSD.

72. The following documents will be required at project start-up and need to be submitted with-in two weeks of the notice to proceed:
   A. Fully executed Contract.
   B. Copy of State of DE Business License
   C. Insurance Certificate indicating coverage and limits, as specified in Contract Documents.
   D. Permits or permit filing receipts as required by the contract documents, New Castle County, State of Delaware or any other regulatory agencies having jurisdiction. (Building permit is by CM)
   E. Payment Bond and Performance Bond
   F. Emergency Telephone Numbers for project manager and foremen
   G. SDS Information
   H. Activity Hazard Analysis
   I. Attendance of Onsite Safety Orientation
   J. Copy of Written Safety program and policy
   K. List of all applicable labor rates
   L. Detailed Schedule for the work
   M. Schedule of Values for invoicing
   N. Subcontractor List
   O. Supplier List

73. The following documents (other than submittals) will be required prior to billing for the close-out documents.
   A. Signed-off copy of the punchlist.
   B. Attic stock delivery confirmation (if required by the specifications)
   C. As-built Drawings
   D. Testing Reports and/or Equipment Start-up reports
   E. Operation and Maintenance Manuals
   F. Owner Training Sessions & video tapes as specified.
   G. Standard Guarantee/Warranty for the Trade Contractor and subcontractors (attached)
   H. Specific Warranties from individual suppliers or manufacturers
   I. Affidavit that all taxes have been paid
   J. AIA Document G706 – Affidavit of Payment of Debts and Claims (Original available from AIA)
   K. AIA Document G706A – Affidavit of Release of Liens (Original available from AIA)
      - Complete and attach the ‘Trade Contractor’s Final Release and Affidavit’
      - Complete and attach the ‘Final Waiver and Release for Second Tier subcontractors and suppliers’ (1 needed from each subcontractor / supplier utilized.)
   L. AIA Document G707, Consent of Surety of Final Payment (Original available from AIA)
END OF SECTION
SECTON 011200-04A – SPECIFIC SCOPE OF WORK – MASONRY

SPECIFIC SCOPE – MASONRY:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated March 25, 2019:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<tr>
<th>Section</th>
<th>Description</th>
<th>Responsibility</th>
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<td>Procurement and Contracting</td>
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<td>Requirements</td>
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<td>Division 01</td>
<td>General Requirements</td>
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<td>Existing Conditions</td>
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<td>Division 04</td>
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<td>Weather Barriers</td>
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<td>Sheet Metal Flashing and Trim</td>
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<td>Firestopping</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealants</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 95 13</td>
<td>Expansion Joint Cover Assemblies</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 08</td>
<td>Openings</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Provide masonry patching at head, jambs, and sills as shown for new window installations.
3. Patching of masonry walls at removed devices, including but not limited to: clocks, bells, electrical devices, display boards, etc.
4. Masonry patches do not need to be toothed in, Joints must be neatly tooled and infilled patches should be flush with face of block.
5. Provide the following masonry items including but not limited to: brick, CMU (above and below grade), bond beams, pre-cast concrete lintels, pre-cast copings and sills, masonry flashings at CMU and brick locations.
6. Provide all necessary submittals: mortar mix designs, CMU, brick, stone samples, flashing, masonry accessories, etc.
7. Provide entire masonry demo of CMU and brick in preparation of new window installation. Provide toothing exterior brick in at new window openings, and toothing brick and CMU for new doors openings.
8. Remove all demolition debris and waste to CM provided block dumpster.
9. Include new flashing and installation of lintels.
10. This contractor shall provide ½” plywood (min.) protection of all newly created masonry openings so that the building is secure and weathertight at the end of each shift. Removal and patching of fastener holes is by mason.
11. Provide all new masonry walls, foundation walls, knee walls, and masonry infills as indicated. The masonry screen wall in the courtyard and items on A-521 are by others.
12. Modifications to existing masonry walls as necessary to accept new fire extinguisher cabinets.
13. Provide all new exterior stone treads and landings as indicated.
14. Provide blankets and mortar additives as required by contract schedule.
15. Contain run-off from masonry mixing stations wash downs
16. Include precast stone caps and dowels
17. Provide all new masonry thru-wall flashings at locations indicated and as required for new roof system installation. Include brick removal necessary to install new flashing. Coordinate height of new flashing with roofing contractor. Patch locations with brick and mortar to match adjacent brick and mortar colors. Contractor may re-use demoed brick for patching at their discretion.
18. Provide masonry patching at all removed items per Note B/A201. Include brick/CMU infills at all louvers scheduled to be removed. Patches to be toothed in, louvers openings can be infilled with brick without toothing.
19. Provide grouting and reinforcement of all CMU as required.
20. Provide pockets and grouting of CMU walls as required for new steel stairs.
21. Provide all CMU bond beams and precast lintels as required at wall openings, door openings, mechanical and electrical penetrations. Contractor shall coordinate with MEP drawings.
22. Grout all CMU as indicated.
23. Make repair in existing masonry as indicated, additionally remove unused fasteners and patch masonry all at all interior and exterior masonry walls to remain. Patch existing holes up to 3/4” in interior and exterior masonry wall to remain. Patch at removed items, including clocks, electrical panels, fire valve cabinets, fire extinguisher cabinets, bells, back boxes, pipe penetration in interior CMU walls to remain, above and below grid. Contractor shall visit the site to survey the existing conditions prior to submitting their bid.
24. Provide all precast caps and sills as shown.
25. Install loose steel angle lintels furnished by others.
26. Provide labor and material to clean footings prior to CMU foundation wall work.
27. All interior CMU walls are to be constructed and tight to the underside of structure as required by partition types and details. Provide specified firesafing material/grouting and lateral supports as indicated at all locations where new masonry abuts structure or work by others.
28. Provide all waterproofing/damproofing as indicated.
29. All masonry walls to be constructed to meet all fire ratings as shown. Provide firesafing and fire sealants as required to meet UL listings indicated on A-003.
30. Provide all scaffolding and hoisting as required to complete this work. Masonry material is not transported in existing passenger elevator.
31. Review all drawings including structural, architectural, interiors, mechanical, electrical, plumbing, and fire protection to mobilization to identify all items that need to be embedded, penetrate or generally coordinated with masonry.
32. Provide all rebar in masonry walls and foundation walls. Provide rebar set in masonry foundations walls that ties into concrete slabs. All exposed ends of rebar must be capped.
33. Provide all brick ties in CMU back-up walls and structural stud back-up walls. Coordinate installation of ties in stud back-up walls with drywall and spray foam contractors.
34. Provide all architectural control joints in masonry walls.
35. Provide all architectural expansion joints in masonry walls.
36. Clean and protect all masonry prior to completion.
37. Provide plastic and plywood beneath all work areas to protect adjacent surfaces. Clean all mortar splatter, drippings, etc. from adjacent surfaces.
38. ALL saw cutting for masonry work is to be wet-cut.
39. Do not install finish masonry that is stained or discolored. Any stained or discolored masonry will be replaced.
40. Remove all excess material from site upon completion and as directed by construction manager.
41. Restore all laydown and work areas upon completion.
42. Provide brick wash down of new work. Protect adjacent construction as needed.
43. Grout all new hollow metal frames in new and existing masonry walls.
44. Install all anchor bolts and bearing plates set in masonry.
45. Provide all masonry wall bracing as required.
46. Provide any supplemental, temporary water, power and lighting above and beyond temporary facilities described in specifications.
47. Provide all weep holes, wicks, cavity drains and vents as shown. Keep weeps clean and clear during construction. Upon completion of walls sections, this contractor to perform water tests within cavity wall construction to ensure proper function of flashings and weep holes.
48. Provide toothing of masonry as needed at all masonry patching and to accommodate work of other trades and details.
49. Where existing electrical panels are removed in masonry walls to remain, this contractor shall provide CMU infills. Infills to be toothed in when only when on a corridor, lobby or stair tower.
50. Install all masonry walls plumb, square and true, within tolerances in specifications.
51. Provide plywood below any work done on top of the roof structure. Including plywood for paths of travel for loading and delivering materials on the roof.
52. Provide layout for all masonry walls. Assist carpentry contractor with layout of hollow metal openings in masonry walls. Hollow metal frames to be set prior to CMU wall construction. Layout all masonry walls that contain drains prior to the plumbing contractor performing any sawcutting.
53. Review mechanical, plumbing, fire protections and electrical drawing to account for pipe penetrations and conduit penetrations through new CMU walls. Install sleeves for all pipe and conduit penetrations. Sleeves provided by others.
54. Do Not include the cost of providing concrete lintels for HVAC duct opening through masonry walls above ceilings and or at similar heights at areas with no ceilings. The cost for this work is to billed through allowance #2. HVAC contractor to cut openings. This note is only in reference to interior walls.
55. Provide raking and repointing of mortar joints at all areas indicated on the drawings. Contractor to visit the site to review the existing conditions prior to submitting their bid.
56. Remove masonry and tooth back in for structural steel attachment at entrance canopy along column line M between lines 23.8 – 18
57. See Contract Drawings for hatched areas that are not in scope.
58. See new 2019 prevailing wage rates, this is a change from previous bid.

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

Allowance #1 – Provide a $40,000 allowance for miscellaneous masonry work. All work related to this allowance will be tracked on tickets signed by Whiting-Turner personnel daily. Any amount not used will be credited back to the Owner.

Allowance #2 – Provide a $15,000 allowance for masonry work at HVAC duct opening. All work related to this allowance will be tracked on tickets signed by Whiting-Turner personnel daily. Any amount not used will be credited back to the Owner

ALTERNATES
Provide all masonry work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E.
ALTERNATE No. 24: New windows at Area F.

UNIT PRICES
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

1. Provide raking and repointing and washdown of masonry mortar joints, assume amounts over 50 linear feet, unit cost per linear feet.
SECTION 011200-02A – SPECIFIC SCOPE OF WORK – SELECTIVE DEMOLITION

SPECIFIC SCOPE – SELECTIVE DEMOLITION:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS

Prepared by ABHA Architects, dated November 7, 2018:

Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

<table>
<thead>
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<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division 00</td>
<td>Procurement and Contracting Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 02</td>
<td>Existing Conditions</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 03</td>
<td>Concrete</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 04</td>
<td>Masonry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 05</td>
<td>Metals</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 06</td>
<td>Wood, Plastics &amp; Composites</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 07</td>
<td>Thermal and Moisture Protection</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 08</td>
<td>Openings</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 09</td>
<td>Finishes</td>
<td>As Applicable</td>
</tr>
<tr>
<td>09 05 61</td>
<td>Common work results for flooring preparation</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 10</td>
<td>Specialties</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 11</td>
<td>Equipment</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 12</td>
<td>Furnishings</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 14</td>
<td>Conveying Equipment</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 21 – All subsections</td>
<td>Fire Protection</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 22 – All subsections</td>
<td>Plumbing</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 23 – All subsections</td>
<td>HVAC</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>
## NARRATIVE:

1. Contractor must review/walk the site. This Contractor has fully informed him/herself as to all existing condition and limitation which are visible and above ground as well as indicated in the contractor documents under which the work as set forth. No allowance will be made to any contractor because of lack of such examination or knowledge. The execution of this contract is construed as conclusive evidence that the contractor has made such examinations.

2. Include the cost of performance and payment bonds in the base bid.

3. This contractor is responsible for all fall protection and safety requirements associated with roof work. When working from lifts & harnesses, or tie-offs provided by this contractor, OSHA standards must always be met and followed.

4. Daily Cleanup of debris. If this contractor does not clean the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily. Work area must be swept daily.

5. All trucks are required to clean their tires prior to leaving the project site.

6. A temporary power source will be provided, but it will be the responsibility of this contractor to have a backup power source in case the temporary service goes out. Temporary power will consist of 110V service. If a larger service is required to perform any work in the scope described herein, it will be the responsibility of this contractor.

7. Provide, maintain and remove all safety barricades, traffic controls, shoring, flagmen, etc. to comply with all safety practices required by OSHA, State of Delaware, New Castle County, Brandywine School District, The Whiting-Turner Contracting Company or any agency having jurisdiction and as noted in the specifications in order to complete the work under this Contract.

8. The Demolition Contractor is to provide and pay for any required permits and/or approvals other than the building/demo permit required for this work including but not limited to the New Castle County, State of Delaware and all appropriate state and county agencies.

9. The Demolition Contractor is required to coordinate with other trades as required.

10. All work/disposal is to be done per all federal, state, local, OSHA rules and regulations.

11. This contractor shall take protective measures necessary for the safety of work staff, the public and adjacent properties. All safety measure shall comply with the regulation of all Federal, State, Local authorities having jurisdiction including all applicable OSHA, Whiting-Turner (W-T) safety rules and at W-T’s direction. Contractor shall abide by all current regulation and procedures regarding any confined space safety practices and fall protection. Employee’s failure to comply with safety on site will ultimately result in expulsion from the project.

12. This contractor shall provide all unloading, hoisting and maintenance of traffic, scaffolding, lifts, cranes and other means of access for your own work as needed.

13. During construction, the school will be occupied during the school year, noisy work must take place before or after school hours or during breaks. This includes noises created by chipping hammer, hammer drills, compaction tools, power acted tools, compressors and tools creating similar dB levels or vibrations. Include cost these shifts in your bid.

14. This contractor is to comply with all local noise restrictions.

15. Temporary sheeting, shoring and bracing as required to perform your work.

16. SDS sheets for all material brought onto the site must be submitted prior to starting work. **Generic safety data sheets for demolished material must be provided by this contractor.**

17. Provide all insurances per W-T standard subcontract. This includes Pollution Liability Insurance – per W-T Insurance requirements.

18. This contractor is responsible for all applicable taxes.

19. This contractor shall abide by all Fire Marshal life safety and fire prevention measures.

20. Provide any warning lines/temporary barricades as needed to safely perform your work and protect

<table>
<thead>
<tr>
<th>Division 26 – All subsections</th>
<th>Electrical</th>
<th>As Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division 28</td>
<td>Electronic Safety and Security</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 31</td>
<td>Earthwork</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 32</td>
<td>Exterior Improvements</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 33</td>
<td>Utilities</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>
Brandywine School District
Claymont Elementary School Renovation
11/7/2018

SPECIFIC SCOPE OF WORK – 02A SELECTIVE DEMOLITION

21. During performance of Own work or subcontractors work this contractor must have full-time
competentonsite supervision (capable of making construction changes (schedule/cost) as needed).
22. This Contractor shall have an office representative (not just a foreman or project superintendent)
attend Whiting-Turner’s weekly progress meetings. Contractors will be required to attend the
progress meeting two (2) weeks prior to their work commencing, during the duration of their work
and two (2) weeks after their work is substantially complete. Contractors will be held responsible for
the outcome of meetings whether in attendance or not. The representatives to the meetings are
expected to make commitments regarding schedule and cost during the construction process.
23. Use of the site for staging, storage trailer, parking, etc. shall be as instructed and approved by W-T.
24. All change pricing must be submitted within five (5) days of receipt of requested change unless
mutually agreed otherwise. All pricing must be accompanied by a detailed breakdown of the cost.
Lump sum pricing will not be accepted. All change orders requested shall be made in writing. A
request for change does not mean a change is authorized. Authorization to proceed with change will
follow change request.
25. Tickets for extra work will not be considered unless signed by an Authorized W-T representative and
backed up by a written summary of all associated cost within five (5) days of the performance of
such work. Approval of a field ticket is acknowledgement of work completed but does not constitute
immediate agreement of payment due.
26. Construction personnel shall use designated entrance and egress areas to the project as direct by W-T.
27. Prior to any excavation, this contractor must call local or state utilities locator service (miss utility) at
least 3 days prior to digging. This contractor must keep that permit/Ticket current with utility
company’s during your entire excavation.
28. This contractor shall identify all onsite utilities prior to your work. Use locating company to identify
utilities.
29. Care should be taken in all excavation due to possible existence of unrecorded utility lines.
30. The Electrical Contractor will disconnect power feeds to equipment and branch circuits. Electrical
contractor will "cut and lowered" lights, conduit, gear, wiring. Haul off is by demo contractor.
31. Provide demolition and disposal in coordination with HVAC and Plumbing Trades as follows. The
HVAC Contractor to capture refrigerant, drain, safe-off, isolate, mark all items to be removed by
demolition contractor. Plumbing contractor to make the first break to isolate each phase of work and
mark all items to be removed by demolition contractor. Demolition contractor to remove and haul away
HVAC/Plumbing pipe, fixtures, hangers, fasteners and equipment. All items removed from walls and
ceilings are to be lowered in sections, not dropped. Demolition, removal and disposal of all roof top
equipment is by HVAC contractor.
32. The fire lane and student drop off and pick up areas are always be maintained / open.
33. Demolish exterior canopy outside of main office back to building, including footers. Demo note D37
on -101.4
34. Removal of flooring and adhesive down to concrete, leaving substrate ready for floor installation. Removal
must comply with LEED VOC limits and OSHA silica standard.
35. Asbestos containing flooring is to be abated by the abatement contractor, adhesive in this area is to be
removed by flooring contractor. All other areas, flooring adhesive is to be removed by this contractor.
36. Perform all layouts for this work.
37. Thorough interior and exterior investigation of the site is necessary.
38. Daily clean-up (broom swept) of all material, trash, and debris generated into a dumpster provided by
this subcontractor and disposal offsite.
39. Include all concrete slab on grade and slab on deck removal, except for areas that are being removed for
new sanitary/stormwater drains installation. In areas where new sanitary is to be installed, slab removal
and excavation is by the plumbing contractor. See plumbing drawings. All other interior slab removal as
detailed in architectural, Mechanicals or Structural in by demolition contractor.
40. Interior demolition and slab demolition have been started in new kitchen and server area, verify extent
during walk thru. Minor demo will be required by this contractor. Slab demo at areas to receive new
walk-ins and storage area off kitchen is by this contractor.
41. All cutting, drilling, grinding, chipping and dust producing activities must comply with Whiting-
Turner’s safety policies and OSHA’s crystalline silica dust regulation.
42. Protect the existing building. You must clean each area daily.
43. This contractor should assume all power will be provided (WITHIN 150’) and water may be obtained
onsite. This contractor will need to provide all the hoses required to get water from each hose bib source to where you are cutting.

44. Provide temporary shoring of existing structure where the work sequence requires that existing structural members be demolished prior to new framing or new finish.

45. All demolished material under this contract to be placed in dumpsters provided by this contractor, hauled off-site and properly disposed of in a legal manner. Refer to 01 74 19 for Construction Waste Management and Disposal. No dumpster deliveries are to be made during pick up and drop off during the following hours of 8am-9am or 2:30pm - 4pm while school is in session.

46. This contractor shall perform all demolition work in multiple mobilizations as required.

47. This contractor shall replace any damaged paving, curbing, sidewalks that are not to be removed if damaged by this work.

48. A minimum of 7 day advanced notice is required for any road closures. This will need to be coordinated with the Owner and local authorities.

49. All site demo outside building line is by others including unless otherwise noted.

50. This contractor shall remove and dispose of locker, walls, finishes, terrazzo, vct, wall base, adhesive, carpet, padding, ceramic, casework, acoustical tile and suspension grid system, gypsum ceilings and walls, CMU walls and columns, column enclosures, display cases, fire extinguisher and cabinets, marker, caulk and tack boards.

51. This contractor shall remove and dispose acoustical ceilings, including grid, tile, wire and fasteners as indicated. Note the following areas have a secondary grid system (no tile) above the current ceiling: 1st and 2nd floor of Area F and 1/3 of the area of 1st and 2nd floor of Area E.

52. All fastener to be removed from walls, ceilings, and structure remaining, concrete equipment pads, doors, frames and hardware, stair assemblies, interior ramps, coiling doors and gates, signage, wall pads, sound panels, ceramic floor and wall tile, interior storefront.

53. Removal of band risers as detailed in item D48 on A-101.3 is by others.

54. Include in the base bid slab removal for auditorium ADA seating work. See note D55 on A-101.3.

55. Removal of floor slab, deck and joist at for elevator. Excavation for new elevator pit, hand digging may be required. Remove spoils. Provide temp shoring of structure until structural modification have been made.

56. Remove steel roof structure indicated on note D11 on A-103.2, coordinate removal with roofer.

57. Flooring demolition to include removal of all adhesive, setting materials down to existing floor substrate.

58. Remove mezzanine in room C156.1, See sheet A-101.3 for details.

59. Remove metal panels and ladders at roof as indicated.

60. Remove structural items as indicated at roof, coordinate with roof installation.

61. Demolish exterior facade for stair #4, masonry, steel, concrete, doors and windows, roofing (this area only), roof deck, stairs and SOG.

62. Sawcut and remove concrete for added perimeter columns see S-102 and 14/S-201.

63. See scope of 08A and 06A for exterior door and window removal by others.

64. Remove window stools and mortar at existing windows.

65. Sawcut and removal of terrazzo and sand bed down to concrete as indicated.

66. The roof demolition will be by the roofing and abatement contractors with exception of at stair 4.

67. The removal the back stops for alternate 8 is by contract 10A.

68. Alternate 11 - Perform removal and disposal of auditorium seating, removal of floor anchors and patching of fastener holes in slab alternate. Base bid to include removal of seating for ADA seating.

**ALLOWANCES**

Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

1. None
ALTERNATES
Provide all work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint Gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
ALTERNATE No. 10: Refurbish auditorium stage.
ALTERNATE No. 11: Replace Auditorium Seating.
ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL Screen Wall at Area D north facade.
ALTERNATE No. 14: Replace Pool Roof
ALTERNATE No. 15: Replace Gymnasium Roof
ALTERNATE No. 16: Replace Auditorium Roof
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at Classrooms.
ALTERNATE No. 20: Tubular Skylights
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E
ALTERNATE No. 24: New windows at Area F
ALTERNATE No. 25: Data Infrastructure

UNIT PRICES
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

None.
SECTION 011200-03A – SPECIFIC SCOPE OF WORK – CONCRETE

SPECIFIC SCOPE – CONCRETE

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoistings, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<td>As Applicable</td>
</tr>
<tr>
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<td>Concrete</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 04</td>
<td>Masonry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 05</td>
<td>Steel</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 13 00</td>
<td>Sheet Waterproofing</td>
<td>As Applicable</td>
</tr>
<tr>
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<td>As Applicable</td>
</tr>
<tr>
<td>07 26 17</td>
<td>Under-Slab Vapor Barrier/Retarder</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Review all drawings including structural, architectural, mechanical, electrical, plumbing, fire protection and food service prior to mobilization to identify all items that need to be embedded, penetrate or generally coordinated with steel work.
3. Perform all work in accordance with current OSHA safety regulations and Whiting-Turner safety rules.
4. This Contractor owns working extended hour as required to finish concrete on days of pours as part of your Contract.
5. Daily clean-up of debris. If this contractor does not clean the site to the satisfaction of Whiting-Turner, Whiting-Turner reserves the right to clean the site with their own forces at the expense of this contractor.
6. Furnish and install full-time onsite superintendent to monitor and supervise work described herein. The project manager assigned to this work is required to visit the site a minimum of two times a week. When the Project Manager is onsite he must meet with Whiting-Turner superintendent and project manager.

7. The Contractor is required to supply the Construction Manager with a list of subs and suppliers before receiving any payment.

8. Include the cost to haul off and dispose all excess excavated soil in a legal manner.

9. Provide for cleaning of streets and sidewalks if dirtied by the operations of this Contractor. Maintain a clean work area throughout the day and provide a clean up at the end of the shift.

10. This contractor is responsible for all Concrete work within the building footprint including all entrances. Note, sanitary trenching is provided by plumbing contractor, plumbing contractor is responsible for providing concrete for all trenching preformed within the plumbing contract.

11. This contractor shall provide all excavation, backfill, gravel, vapor barriers, water stop, water proofing, waterproofing protection board, rigid insulation, drainage board, reinforcing, additives, expansion joints, formwork, and concrete to create a concrete system per the plans and specifications.

12. This Contractor shall provide all reinforcing, accessories, including but not limited to tie wire, splicing requirements, chairs or other approved support methods, etc.

13. This contractor shall backfill exterior foundation walls. This contractor is responsible for all building interior backfill related to your work. MEP contactor to infill MEP trenching areas. Addendum #4

14. This contractor is to provide all weather protection, curing measures, and hot and cold concrete procedures including but not limited to blankets, visqueen, etc. per ACI Standards.

15. Provide grouting of all columns and bearing plates in new work poured by this contractor. Addendum #2

16. Provide and pay for all lifting and hoisting, including pumping and transporting concrete and materials to placement area.

17. Provide for rain water pumping and mucking of the footing and pits including but not limited to mucking, hoses, pumps, power, sediment control, fuel, etc. required to accomplish the work described herein. Maintain and remove sump pits as necessary for this contractor’s work.

18. Furnish and install all reinforcing bars that are embedded in concrete and turned up into masonry work.

19. Footings must be poured the day they are dug (to prevent flooding), coordinate inspections with New Castle County and 3rd party testing agent. Addendum #4

20. By submitting a bid it is assumed that this contractor has visited the site and is familiar with the requirements of this project.

21. This contractor shall install anchor bolts and other imbeds supplied by the structural steel, elevator contractors and other trade contractors in this contractor work. Addendum #2

22. This contractor is responsible to provide any necessary fall protection to perform work.

23. This contractor shall provide all sealers per the specifications. Concrete floor sealers noted in the finish schedule is by other. Addendum #2

24. This contractor shall coordinate and provide Whiting-Turner a concrete pour schedule giving at minimum 72 hr. notice of all pours. This will give Whiting-Turner adequate time to schedule building inspectors and independent inspection agencies. Any delays incurred by the concrete contractor for the inspection agencies not being present will be the responsibility of the concrete contractor if this schedule is not submitted in writing at least 72 hours in advance.

25. This contractor shall provide all weather protection, curing measures, and hot and cold concrete procedures including but not limited to blankets, visqueen, etc. per ACI standards.

26. This contractor shall provide, maintain, and remove a curing box if necessary.

27. This contractor shall provide all concrete in all stair treads and stair landing pans and shall set all nosings. Each stair tower will be done separately. It is assumed each tower will be poured within 1
week of the stairs being set. See Drawings A-431 – A-433 for locations of terrazzo stair treads (by others) where no concrete is required. – Addendum #2

28. Provide a separate mobilization for all concrete fill above the footings after the columns and base plates have been installed. This contractor is responsible for grouting of all base plates.
29. Provide a shop drawing indicating all construction joints in slabs.
30. Provide additional reinforcing at penetrations as necessary.
31. Provide all plywood forms, wire mesh and reinforcing required for the installation of a complete floor system is by this contractor. This contractor will also furnish and install the flange hanger pieces where required (steel beams, walls, etc).
32. Furnish and install all anchor bolts, lag bolts, toggle bolts, powder actuated pins, machine screws, and expansion shields, lock washer and other fasteners associated with this scope of work. Addendum #2
33. Weld any rebar to beams/steel as required by drawings or specification. Addendum #2
34. A limited amount of storage space is available to this contractor. Contractor shall coordinate deliveries to the jobsite in quantities as per floor and as storage availability permits.
35. This contractor is responsible for any slab depressions, box outs and concrete fills/toppings, not limited to walk off mats, refrigerated walking coolers, terrazzo and other flooring.
36. Contractor is responsible to slope concrete slabs to floor drains.
37. All Floor Flatness and Floor levelness per the specifications and within the tolerances of the finish materials being applied to the concrete.
38. This contractor is required to have rebar caps on all rebar ends per OSHA guidelines. Additionally this contractor shall have excess caps onsite as to respond to any request to cap the rebar by the CM.
39. All curing compounds must be coordinated with the floor finish manufactures acceptable finishes.
40. This contractor is responsible for providing a washout area and maintained as required per DNREC.
41. All anchor bolts for furnished by others for embedment in this contracts work, layout per anchor drawings provided by others.
42. This Contractor is to cover all holes in slab with anchored ¾” plywood the day after each slab pour. WT will provide signage that this contractor is to install at each opening (attached to each piece of plywood). Assume this to be done at all shaft and diamond locations.
43. Provide elevator slabs box out for sump., including required waterproofing. Waterproofing on CMU by mason.
44. Provide excavation as need for your work for ADA seating modifications in auditorium, reconfigured ramp and stair modification auditorium lobby and corridor. Demolition contractor to remove slabs, stairs and ramps at auditorium lobby and corridor.
45. Infill concrete at removed slabs. Plumber to provide infill at new sanitary below slab. See all drawings, Structural, MEP and Architecturals for infills.
46. Provide all footer as detailed on S101 -S103.
47. Provide interior slabs and at newly created vestibules. Sidewalks and exterior concrete stairs is the by Sitework Contractor. Interior slabs at kitchen, D132, D137, D150, D138, D134, D135, D133 are provided by this contract, 03A – Addendum #2
48. Infill concrete at exterior perimeter columns and headers. See 14/S-201 for details. Concrete removal by Demolition contractor.
49. Masonry screen wall footer as detailed on A-114 is by others.
50. Provide layout for demolition contractor where concrete is to be removed in gym lobby and auditorium.
51. Alternate 11 – include cost of patching concrete at removed fastener from removed seats.

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and
profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

Provide an allowance of $3,000 for additional MEP pads as required

ALTERNATES
Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint Gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
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ALTERNATE No. 12: Curtain wall at Area D south facade.
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ALTERNATE No. 16: Replace Auditorium Roof
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at Classrooms.
ALTERNATE No. 20: Tubular Skylights
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E
ALTERNATE No. 24: New windows at Area F
ALTERNATE No. 25: Data Infrastructure

UNIT PRICES

None.
SECTION 011200-05A – SPECIFIC SCOPE OF WORK – STEEL

SPECIFIC SCOPE – STEEL:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoistings, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

<table>
<thead>
<tr>
<th>Section</th>
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<tr>
<td>Division 00</td>
<td>Procurement and Contracting Requirements</td>
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</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
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<td>Division 02</td>
<td>Existing Conditions</td>
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<td>Division 03</td>
<td>Concrete</td>
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<td>05 12 00</td>
<td>Structural Steel Framing</td>
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<tr>
<td>05 50 00</td>
<td>Metal Fabrications</td>
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<tr>
<td>05 51 00</td>
<td>Metal Stairs</td>
<td>In Its Entirety</td>
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<tr>
<td>05 52 13</td>
<td>Pipe and Tube Railings</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 91 13</td>
<td>Exterior Painting</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Review all drawings including structural, architectural, mechanical, electrical, plumbing, fire protection and food service prior to mobilization to identify all items that need to be embedded, penetrate or generally coordinated with steel work.
3. Provide all structural steel including but not limited to: columns, beams, angles, tubes, trusses, bar joists, joist bridging, plates, decking, sheared studs, clip angles, bolted connections, moment connections slip connections, bolts, nuts, washers, etc.
4. Provide elevator hoist beam as shown.
5. Perform all work in accordance with current OSHA safety regulations and Whiting-Turner safety rules. See hot work and fire watch requirements in WT safety policy.
6. Submit steel erection plan and narrative as required by OSHA.
7. Shop prime all materials as shown. Ensure that all materials are compatible with specified final finish.
8. Provide field touch-up of finishes provided under this contract.
10. Provide all shop drawings and submittals required and as per project schedule.
11. Provide all pour stops, angles, etc. as needed to complete concrete slab pours. Provide temporary deck closures that may be necessary to complete concrete slab pours.
12. Provide supplemental support framing for mechanical, plumbing, food service and electrical equipment. Provide joist reinforcement as detailed. Coordinate with appropriate drawings, WT and trade contractor.
13. Furnish steel column anchor bolts, nuts, leveling plates and anchor bolt plan.
15. Provide equipment, power and fuel for all welding. When welding inside provide smoke eater and ventilation.
16. Provide welding screens to protect other workers from welding operations.
17. Provide all roof decking. Include all deck reinforcing as detailed. Refer to architectural and plumbing drawings for roof drain locations.
18. Provide all metal ladders and ships ladders as shown. Coordinate blocking requirements with construction manager.
19. Provide all interior and exterior stainless steel and powder coated guardrails and handrails.
20. Remove stair hand rails and wall rails as shown on the Demolition drawings, see note D51, in preparation of new stainless steel hand rails provided by this contractor as typically shown on A-431. Guardrail to remain.
21. Provide layout for all required in-wall blocking locations.
22. Provide loose lintels.
23. Grind all welds smooth and clean and ready for painting.
24. Provide miscellaneous or loose steel angles called out on drawings.
25. Provide all steel stairs and landings.
26. Include multiple mobilizations as required to complete structural and miscellaneous work as indicated on the schedule.
27. Provide all temporary power and lighting required to complete this work.
28. Assume that mechanical equipment support steel after the metal deck is installed.
29. Provide all drilling and epoxy for steel connections as detailed.
30. Provide new rails in auditorium and modification of wall mounted handrails.
31. Provide steel structure for prefinished aluminum equipment screen as indicated on A311. Coordinate installation with roof tear off.
32. Provide metal roof screen structure only at HPL screens locations. Coordinate installation with roof tear off.
33. Modification of joist and deck at new elevator opening. See S-111
34. Transfer trusses at operable partitions See S-123
35. Provide pit ladder and sump pump pip grate.
36. Roof infills, deck and structure at abandoned penetrations. Coordinate installation with roof tear off.
37. Provide joist reinforcement as indicated.
38. Provide exterior perimeter columns and headers. Layout of saw cut areas at added perimeter columns for concrete removal by others. See 14/S-201 for detail.
39. Provide Steel column/header alternate pricing for #23 and #24
40. Steel erectors and metal decking installers must utilize 100% fall protection devices at all times when working over 6’.
ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

None

ALTERNATES
Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
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ALTERNATE No. 23: New windows at Area E
ALTERNATE No. 24: New windows at Area F
ALTERNATE No. 25: Data Infrastructure

UNIT PRICES
None.
SECTION 011200-06A – SPECIFIC SCOPE OF WORK – CARPENTRY

SPECIFIC SCOPE – CARPENTRY:
A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<td>06 10 00</td>
<td>Rough Carpentry</td>
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<tr>
<td>06 20 00</td>
<td>Finish Carpentry</td>
<td>In Its Entirety</td>
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<tr>
<td>05 75 00</td>
<td>Decorative Formed Metal</td>
<td>In Its Entirety</td>
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<tr>
<td>Division 07</td>
<td>Thermal and Moisture Protection</td>
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<tr>
<td>08 11 13</td>
<td>Hollow Metal Doors and Frames</td>
<td>In Its Entirety</td>
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<tr>
<td>08 14 16</td>
<td>Flush wood doors</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>08 17 00</td>
<td>Integrated Door Opening Assembly</td>
<td>In Its Entirety</td>
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<td>08 36 13</td>
<td>Sectional Doors</td>
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<tr>
<td>08 70 00</td>
<td>Door Hardware Schedule</td>
<td>In Its Entirety</td>
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<td>08 71 00</td>
<td>Door Hardware</td>
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</tr>
<tr>
<td>08 80 00</td>
<td>Glazing</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. This contractor is responsible for all fall protection and safety requirements associated with roof work. When working from lifts & harnesses, or tie-offs provided by this contractor, OSHA standards must be met and followed at all times.

SPECIFIC SCOPE OF WORK – 06A CARPENTRY
ABHA Architects
Project No. 1630
01 12 00-06A - 1
3. Daily Cleanup of debris. If this contractor does not clean the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily.

4. A temporary power source will be provided, but it will be the responsibility of this contractor to have a backup power source in case the temporary service goes out. Temporary power will consist of 110V service. If a larger service is required to perform any work in the scope described herein, it will be the responsibility of this contractor.

5. The 06A Carpentry Contractor shall furnish attic stock as required per the specifications.

6. Furnish installation instructions for proper installation of all materials and products. Furnish all applicable product data.

7. This contractor is responsible to provide fire ratings per the documents and specifications. UL labels shall be provided on all rated components.

8. This contractor shall furnish and install all sealants integral to the work associated with this bid package.

9. This contractor shall provide factory stain or sealers for field touch-up by the painting contractor.

10. Wiring diagrams for all electrical devices provided and/or installed by this contractor are to be provided and coordinated with the Electrical Contractor in time for electrical rough-in.

11. This contractor shall furnish and install all wood window trim. Fill and sand fastener holes.

12. All wood and hollow metal doors to be glazed by carpentry contractor. Glazing of door frame sidelites and vision panels is by the glazing contractor 08A.

13. Furnish and install all fire rated plywood at the telephone and equipment backer boards as required. This work may be shown on the Mechanical/Electrical/Plumbing drawings.

14. Furnish and install all hollow metal doors, metal frames, wood doors, and all door hardware for hollow metal and wood doors. Furnish and install all louvers, grilles, or grates in doors or in frames. Furnish and install any necessary anchoring devices. Installation of all wood blocking in drywall as necessary to support door hardware must be coordinated with the Drywall Contractor, 09A.

15. Provide kerfed hollow metal door frames to accommodate continuous gasket as detailed on A-602.

16. Furnish and install all hollow metal borrow lites and vision panel assemblies per the door schedule, the details and the notes.

17. Hardware for storefront door systems to be provided by Glazing contract 08A.

18. For the installation of doorframes, anchor and set frames in place; plumb and level. The mason or partition contractor will build their walls to the doorframe. Coordinate this work with other trades. This contractor shall assist the drywall and masonry contractors with door frame layout in partitions. The 06A carpentry contractor is responsible to verify that the frames have not been disturbed by wall construction. Allow time to re-check the doorframes after the wall contractor. Realign frames as necessary. Leave spreaders in place until removal is approved. Remove spreaders in such a way as to create no damage and leave a clean finished product. Verify that air and surface temperature, moisture and humidity conditions are suitable for installation of the work in this bid package.

19. This contractor shall furnish all clips, temporary space bars, angles, fasteners, and special tools as required for installation and maintenance of the work included in this bid package.

20. This contractor is required to measure existing opening for new doors and frames, and report contract document inconsistencies in writing to CM prior to ordering material.

21. All hollow metal doors shall be factory primed and finished.

22. All hollow metal door frames shall be factory primed.

23. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.
24. Provide sliding barn doors at cafeteria, if door manufacturer cannot provide the panel the specified width two doors together, grind smooth ready for paint.

25. See hardware set #28 for door and hardware replacement on existing doors. Site survey is required. The function of all existing doors will be confirmed at the conclusion of the project.

26. Provide Total Door System integrated steel doors with hardware as indicated on door schedule.

27. Include in this bid package any labor and material necessary to prepare the doors and frames to receive all hardware as listed in the hardware specification sets and in the door schedule notes. Coordinate the fabrication of doors and frames to be fully prepped to receive all hardware, glass, and security devices.

28. This contractor shall provide raceways within doors and/or frames for wiring to electrical hardware.

29. Provide keying to match existing system for all hardware items in this scope and glazing package 08A. This contractor is required to attend a keying conference, pre-installation conference and hardware coordination meeting at the project site with respect to the door hardware installation.

30. Provide and install (15) construction cores, (3) control keys and (10) keys to be used at Whiting-Turner’s discretion. Include removal and return to WT at final keying.

31. Furnish and install overhead doors, coiling grilles, hoods, jambs, door operators and accessories required for a complete and operational system. This includes all sills, weather seals, push/pull handles, lock cylinders/cores, brackets, smoke seals, counterbalancing systems and all other necessary parts.

32. This contractor shall assist the electrical contractor in the wiring of all electronic hardware. Provide detailed wiring diagrams and onsite support as necessary. Commission the operation of the doors to verify that they are working according to the manufacturer’s specifications.

33. Coordinate with the electrical contractor to insure that provisions are compatible with electrically operated hardware components.

34. This contractor shall provide field measuring, shop drawings, hardware schedule, labels on doors, labels on hardware, etc. Properly label all finish hardware by set number and number all doors to align with the corresponding door number on the contract drawings.

35. Provide metal column surrounds as detailed in E1/A-504.

36. This contractor owns removal of exterior hollow metal doors and/or frames, in opens that are provided in this contract. If new opening is not complete the same day, temporary plywood openings will need to be installed to secure building.

37. **Maple Wood** trim – Addendum 2

38. Furnish and install custom display cases complete as detailed on sheet A-405, including but not limited to all plywood, veneer plywood, wood trim, solid surface, LED light fixture and glass shelving, brackets, glass display door systems, etc. for a complete installation. **Light Fixtures by electrical contractor. Addendum #2**

39. Install and remove (2) wood elevator guard rail with offset from wall, with removable rail section.

40. Install and remove temporary wood hand rail and stair rail for gym auditorium lobby ramp and stairs and auditorium lobby stair guard rail, approximated 125” guard rail and hand rail for (2) stairs.

41. Install and remove temporary wood guard and hand rail for new stair #4 at stairs, landing and top landing. Install and remove temporary foam tread and landing infills.

42. Install and remove temporary metal framed wall to deck with insulation and drywall both sides, wall finished and masking taped seams and painted, each wall to have an owner supplied, contractor installed door, frame and hardware installed in. **Temporary walls to be constructed to divide occupied areas from construction areas in corridors, installed and removed at each phase. See phasing plan. Phase 1 dividers are by others. Addendum #2**
43. Install and remove temporary metal framed wall to deck with insulation and drywall one sides, wall finished and masking taped seams and painted installed column line 16, between cafeteria and server. Wall to be constructed and removed during off hours. *Addendum #2*

44. This contractor shall provide a price to furnish and install alternate 7, Refurbish, refinish, and restrripe gymnasium floor and alternate 10: Refurbish auditorium stage, apron and front, including wood infill. See A111.2, A111.3 and A-621 for additional details –*Addendum #2*

45. Provide applied mullions as detailed in E.6.1/A.6.02 –*Addendum #2*

**ALLOWANCES**
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

Allowance No. 1: Include the amount of $15,000 for miscellaneous protection.

**ALTERNATES**
Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC
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ALTERNATE No. 16: Replace Auditorium Roof
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at Classrooms.
ALTERNATE No. 20: Tubular Skylights
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E

SPECIFIC SCOPE OF WORK – 06A CARPENTRY
ABHA Architects
Project No. 1630
ALTERNATE No. 24: New windows at Area F
ALTERNATE No. 25: Data Infrastructure

UNIT PRICES

None.
SECTION 011200-07A – SPECIFIC SCOPE OF WORK – ROOFING

SPECIFIC SCOPE – ROOFING:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoistings, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division 00</td>
<td>Bidding and Contract Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>06 10 00</td>
<td>Rough Carpentry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 21 00</td>
<td>Thermal Insulation</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 25 00</td>
<td>Weather Barriers</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 53 00</td>
<td>Elastomeric Membrane Roofing</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 54 19</td>
<td>PVC Thermoplastic single-ply roofing</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 62 00</td>
<td>Sheet Metal Flashing and Trim</td>
<td>In Its Entirety</td>
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<tr>
<td>07 71 00</td>
<td>Roof Specialties</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 81 00</td>
<td>Roof Accessories</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint sealants</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 22</td>
<td>Plumbing</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 23</td>
<td>HVAC</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 26</td>
<td>Electrical</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Roof demo and replacement to take place during summer break 2019 and 2020 only. Misc roof work and flashing of new penetrations to take place per construction schedule.
3. This contractor shall provide all design, engineering and certifications as required for this work.
4. This contractor is required to review all drawings including Structural, Architectural Mechanical, Electrical, Plumbing, Fire Protection, and Food service prior to mobilization to site to identify all items that need to be embedded-in, penetrate or generally coordinated with roofing work.

5. Daily Cleanup of debris. If this contractor does not clean the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily.

6. This contractor shall be required to provide dumpsters and waste removal for their work during the execution of their work.

7. This contractor is responsible for all fall protection and safety requirements associated with roof work. When working from either lifts and harnesses, or tie-offs provided by this Contractor, OSHA and Whiting-Turner standards must be met and followed at all times.

8. Provide demolition of all existing roof assemblies complete, down to existing structural roof deck. Include demolition of canopy roofs. Include removal of unused blocking, pockets, abandoned vents and curbs.

9. Any areas of existing roof that are removed on a given workday, must be made water-tight at the end of the same workday. The use of tarps does not constitute water-tight.

10. Contractor shall NOT remove sections of roof that are identified to have asbestos-containing-materials. These areas of roofing will be removed down to the deck by others. This contractor will be responsible to coordinate their work with the asbestos abatement contractor. Any areas of existing roof that are removed on a given workday by the asbestos abatement contractor, must be made watertight at the end of the same workday by the roofing contractor.

11. Furnish and install the Ethylene-propylene-diene-monomer (EPDM) roof system. Obtain manufacturer’s warranty for system.

12. Furnish and install, complete, entire roofing system including all accessories, but not limited to: insulation, cover board, membrane, flashing, termination bars, battens, miscellaneous fasteners, copings, gravel stops, walkpads, etc. Include new roof at canopies. The system is to be installed to meet the requirements of the Contract Documents and/or manufacturer’s details; whichever is more stringent.

13. Provide new pads and pedestals for new and existing gas piping on the roof.

14. Coordinate your work with structural deck replacement at locations noted on drawings.

15. At locations, where existing thru-wall flashings will be buried by new roofing AND new roofing membrane will be adhered to existing building wall, this contractor shall remove existing thru-wall flashing as necessary to ensure smooth and proper adherence of new roof membrane to existing building wall.

16. This contractor shall demo, remove and dispose of existing roof drains shown to be replaced. The plumbing contractor shall disconnect old drains below deck. Roofing contractor to provide and install new roof drain fixtures. Plumber to tie in new fixtures below deck. Include connection to existing roof drain piping. Contractor to confirm with local jurisdiction if this work must be completed by a licensed plumber and comply with local jurisdiction requirements. Plumber will only install new storm piping as indicated on P Drawings, all other piping between existing and new drains is by Roofer. Addendum #4 - Plumber will not supply roof drain fixtures.

17. This contractor shall prepare all required information and materials and attend the required pre-installation conference, as per the Contract Documents.

18. This contractor shall provide all required inspections and warranties.

19. Furnish and install mock-up(s) as required by the Contract Documents. Mock-up(s) will not only be used to approve materials but to establish the quality for the entire project. Any area not conforming to the mock-up will be re-worked. In addition, the architect will inspect the first sections of completed work to develop a standard for the rest of the work. An exterior wall mock-up will be needed; review the Contract Documents for all other mock-ups required.
20. Field verify steel framing, curbs, and other conditions effecting this work and notify WT of any conflicts at least two (2) weeks prior to the start of this work. Commencement of this work will constitute acceptance of the condition by this contractor.
21. Furnish and install all sealants, mastics, and splicing cement associated with the work installed herein.
22. This contractor shall provide all sealants, caulking, etc. between the roof system and all adjacent building materials. Install as per the manufacturer’s specifications and directions.
23. Furnish and install all roof blocking including but not limited to all top and bottom of the parapet, roof edge roof area divider, expansion joints, and rooftop equipment curb blocking for all Mechanical/Electrical/Plumbing/Fire Protection equipment, etc. Include wood blocking as necessary to make the mechanical equipment level. See LEED Requirements for wood.
24. Furnish and install any blocking necessary for all roof accessories such as ladders, roof hatches, fall arrest, etc.
25. This contractor shall provide all roofing cant strips – including wood cant strips and any necessary brackets or installation hardware.
26. Furnish and install all flat and tapered roofing insulation. Provide shop drawings 3 weeks after award.
27. Provide appropriate perimeter blocking thickness as determined by the tapered insulation thickness, regardless of contract drawings. Fascia height should be sized to cover blocking and provide appreciate reveal at brick regardless of height shown on contract drawings.
28. Furnish and install all required vapor barriers as required within the roofing systems.
29. Furnish and install all metal fascia’s as indicated on the Contract Documents.
30. This contractor shall furnish and install all roof fascia plywood and/or blocking and roof edge blocking.
31. Furnish and install all flashing, both metal and membrane, associated with the roof installation. This includes but is not limited to, parapet coping and flashing, reglets, roof edge, counter-flashing (including those on curbs provided by others), gravel stops, etc. This Contractor is required to perform all required caulking of copings and flashings where called out on the Contract Documents.
32. Furnish and install all flashing, both metal and membrane and patching, associated with the penetrations of existing roofing systems for new and removed mechanical, plumbing and electrical items. Include this work in base bid, extent of “existing” to be dictated by which roofing alternates will be accepted.
33. This contractor shall coordinate with all architectural, mechanical, and electrical drawings and with related Contractors to determine the amount of roof penetrations and provide the proper flashing.
34. Furnish and install all pipe enclosure details including all flashings, sealants, fasteners, sheet metal enclosures, etc. for a complete system.
35. This contractor shall flash, seal, etc. all steel/mechanical/plumbing/electrical/accessory penetrations in the roof. Provide boots, pre-molded pipe seals and pitch pockets as necessary for each penetration.
36. Furnish and install the roof expansion joint system and area dividers including but not limited to, blocking, plates, angles, tension bars, flashing, caps, fasteners, etc.
37. This contractor shall furnish and install all gutters, downspouts, and scuppers, complete.
38. Furnish and install all required splash blocks.
39. This contractor shall furnish and install all required roof treads and walkway pads as indicated in the Contract Documents, including any required ‘slip sheeting’ or other type of wear pad between the roof and roof treads per the manufacturer’s requirements. Coordinate locations and extent with the mechanical drawings.
40. This contractor will perform testing on the roof system as required by the Contract Documents and manufacturer’s requirements.
41. This contractor shall insure that material and equipment loading do not exceed the allowable capacity. Verify loading requirements and limits with WT and the Contract Documents.
42. This contractor is responsible to protect all work in progress from rain or moisture on a daily basis.
43. This contractor shall protect all permanent roofing during execution of this work.

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

Allowance #1 – Include $20,000 for miscellaneous roofing as directed by the CM.
Allowance #2 – Include 600 Laborer man hours for clean up as directed by the CM.

ALTERNATES
Provide all roofing work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint Gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
ALTERNATE No. 10: Refurbish auditorium stage.
ALTERNATE No. 11: Replace Auditorium Seating.
ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL Screen Wall at Area D north facade.
ALTERNATE No. 14: Replace Pool Roof
ALTERNATE No. 15: Replace Gymnasium Roof
ALTERNATE No. 16: Replace Auditorium Roof
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at Classrooms.
ALTERNATE No. 20: Tubular Skylights
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E
ALTERNATE No. 24: New windows at Area F
**UNIT PRICES**

Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

<table>
<thead>
<tr>
<th>UNIT PRICE No. 1</th>
<th>Remove portions of existing, failed roof deck. Replace with tectum deck to match existing roof deck, for amounts up to 50 square feet, per s.f.</th>
<th>ADD</th>
<th>DEDUCT</th>
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<table>
<thead>
<tr>
<th>UNIT PRICE No. 2</th>
<th>Remove portions of existing, failed roof deck. Replace with tectum deck to match existing roof deck, for amounts 51 – 100 square feet, per s.f.</th>
<th>ADD</th>
<th>DEDUCT</th>
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<thead>
<tr>
<th>UNIT PRICE No. 3</th>
<th>Remove portions of existing, failed roof deck. Replace with tectum deck to match existing roof deck, for amounts over 100 square feet, per s.f.</th>
<th>ADD</th>
<th>DEDUCT</th>
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</thead>
<tbody>
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<thead>
<tr>
<th>UNIT PRICE No. 4</th>
<th>Remove portions of existing, failed roof deck. Replace with metal roof deck to match existing deck thickness, for amounts up to 50 square feet, per s.f.</th>
<th>ADD</th>
<th>DEDUCT</th>
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</thead>
<tbody>
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</table>

<table>
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<tr>
<th>UNIT PRICE No. 5</th>
<th>Remove portions of existing, failed roof deck. Replace with metal roof deck to match existing deck thickness, for amounts 51 – 100 square feet, per s.f.</th>
<th>ADD</th>
<th>DEDUCT</th>
</tr>
</thead>
<tbody>
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</table>

<table>
<thead>
<tr>
<th>UNIT PRICE No. 6</th>
<th>Remove portions of existing, failed roof deck. Replace with metal roof deck to match existing deck thickness, for amounts over 100 square feet, per s.f.</th>
<th>ADD</th>
<th>DEDUCT</th>
</tr>
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</table>
SECTION 011200-07C – SPECIFIC SCOPE OF WORK – SPRAY FOAM

SPECIFIC SCOPE – SPRAY FOAM:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<tr>
<td>Division 00</td>
<td>Procurement and Contracting Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 02</td>
<td>Existing Conditions</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 03</td>
<td>Concrete</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 04</td>
<td>Masonry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 05</td>
<td>Metals</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 07</td>
<td>Thermal and Moisture Protection</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 21 00</td>
<td>Thermal Insulation</td>
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</tr>
<tr>
<td>07 21 29</td>
<td>Sprayed Insulation</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 25 00</td>
<td>Weather Barriers</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 26 40</td>
<td>Spray Polyurethane Foam Insulating Air Barrier</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 81 00</td>
<td>Applied Fireproofing</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 81 23</td>
<td>Intumescent Mastic Fireproofing</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 84 00</td>
<td>Firestopping</td>
<td>As Applicable</td>
</tr>
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</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Daily Cleanup of debris. If this contractor does not clean the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily.
3. This contractor is responsible for all fall protection and safety requirements associated with this work. When working from either lifts and harnesses, or tie-offs provided by this Contractor, OSHA and Whiting-Turner standards must be met and followed at all times.
4. Furnish and install all spray foam insulation as indicated. Include all labor and materials as required for a complete installation.
5. Refer to LEED requirements in the specifications.
6. Provide intumescent paint over spray foam insulation typical as noted on sheet A-310.
7. All spray foam insulating air barrier as indicated.
8. Drainage material between wall and spray foam to be provided by Drywall contractor.
9. This contractor shall protect all surfaces from overspray. This includes finished and non-finished surfaces including steel and concrete. Include in your price the masking of finished products that may be installed prior to your work.
10. This contractor shall promptly clean/remove any overspray from adjacent factory finished materials or glass. Cover ALL glass prior to spraying.
11. Include in your base bid the cost for (1) remobilization per phase as required for minor touch-ups and patching of spray foam and intumescent paint following work of other trades.
12. Provide foam at gymnasium entrance as shown in A-313.

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

None

ALTERNATES
Provide all spray foam work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC.
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint gymnasium.
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ALTERNATE No. 23: New windows at Area E.
ALTERNATE No. 24: New windows at Area F.
ALTERNATE No. 25: Data infrastructure.

UNIT PRICES
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

None.
SECTION 011200-07D – SPECIFIC SCOPE OF WORK – CAULKING

SPECIFIC SCOPE – CAULKING:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>02 41 00</td>
<td>Demolition</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 04</td>
<td>Masonry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealants</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 08</td>
<td>Openings</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 09</td>
<td>Finishes</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>

NARRATIVE:

1. Include the cost of performance and payment bonds in the base bid.
2. Daily Cleanup of debris. If this contractor does not clean the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily.
3. All trucks are required to clean their tires prior to leaving the project site.
4. This contractor is responsible for all fall protection and safety requirements associated with roof work. When working from either lifts and harnesses, or tie-offs provided by this Contractor, OSHA and Whiting-Turner standards must be met and followed at all times.
5. Furnish and install mock-up(s) as required by the Contract Documents. Mock-up(s) will not only be used to approve materials but to establish the quality for the entire project. Any area not conforming to the mock-up will be re-worked. In addition, the architect will inspect the first sections of completed work to develop a standard for the rest of the work. An exterior wall mock-up will be needed; review the Contract Documents for all other mock-ups required.
6. Furnish and install caulking or sealants at the following locations, both interior and exterior when applicable:
   A. Door frames, exterior, to adjoining material.
   B. New Elevator jamb(s).
   C. Interior door and window frames to adjoining material.
   D. Overhead coiling doors, exterior, to adjoining material.
   E. Plumbing fixtures to adjoining material.
   F. Bathroom accessories to adjoining material (only if shown on drawings).
   G. Windows/Aluminum to interior finish (drywall/masonry/etc.).
   H. Interior/exterior masonry to masonry.
   I. Drywall to masonry (exposed). *Addendum #4*
   J. Drywall to Steel (exposed). *Addendum #4*
   K. Masonry to concrete.
   L. Metal panel (including corrugated metal panel) to masonry or adjoining material.
   M. Wall construction joints, interior or exterior.
   N. Louvers.
   O. Casework and trim to adjoining materials. *Addendum #2*
   P. Stone treads see A-313
   Q. Head joints at cast stone cap, See examples E6/A-314 and A3/A-613
   R. Lockers to solid surface enclosure, see typical detail on A-511
   S. In general, all sealants between dissimilar materials unless noted below. *Addendum #4*
   T. In general, all exterior sealants noted on drawings unless noted below. *Addendum #4*
   U. In general, all interior sealants noted on drawings unless noted below. *Addendum #4*

7. The following sealants are furnished and installed by others:
   A. Window to window.
   B. Exterior Windows and storefront to masonry.
   C. Aluminum to aluminum.
   D. Internal to the roofing system.
   E. Metal panel to metal panel.
   F. Kitchen equipment.
   G. Fire and acoustical sealants associated with the partitions.
   H. Fire caulking at mechanical and electrical penetrations.
   I. Casework and trim to adjoining materials *Addendum #2*
   J. Tile to tile *Addendum #4*

8. Provide warranty for this work as per the Contract Documents.

9. Furnish and install all backer rods or embeds associated with this work.

10. Submit shop drawings, instructions, certificates, and reports for all joint systems as specified.

11. Furnish and install all fill materials (including backer rod and bond breaker) as necessary to complete the work herein. Materials include but are not limited to firestop devices, sealants, composite sheets, putties, wrap strips, mortars, pillows/bags, and silicone foams. *Addendum #4*

12. Rake out and remove sealant and backer rod of all existing exterior masonry control joints, provide new backer rod and sealant. See note B on Exterior Elevations.
ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

1. **Allowance No. 1**: Include the amount of $5,000 for miscellaneous caulking

ALTERNATES
Insert the following alternate prices into the spaces provided on the bid form.

**ALTERNATE No. 1**: Replace pool pak
**ALTERNATE No. 2**: Replace Pool Lighting
**ALTERNATE No. 3**: Add telescoping bleachers at gymnasium.
**ALTERNATE No. 4**: NOT USED
**ALTERNATE No. 5**: Replace gymnasium lighting.
**ALTERNATE No. 6**: Replace gymnasium HVAC
**ALTERNATE No. 7**: Refurbish, refinish, and restripe gymnasium floor. Paint Gymnasium.
**ALTERNATE No. 8**: New backboards and wall pads at gymnasium.
**ALTERNATE No. 9**: Replace auditorium house lighting.
**ALTERNATE No. 10**: Refurbish auditorium stage.
**ALTERNATE No. 11**: Replace Auditorium Seating.
**ALTERNATE No. 12**: Curtain wall at Area D south facade.
**ALTERNATE No. 13**: HPL Screen Wall at Area D north facade.
**ALTERNATE No. 14**: Replace Pool Roof
**ALTERNATE No. 15**: Replace Gymnasium Roof
**ALTERNATE No. 16**: Replace Auditorium Roof
**ALTERNATE No. 17**: NOT USED
**ALTERNATE No. 18**: Replacing flush valves and wash sinks.
**ALTERNATE No. 19**: Bookshelves at Classrooms.
**ALTERNATE No. 20**: Tubular Skylights
**ALTERNATE No. 21**: Replace existing windows at Areas D, E, & F
**ALTERNATE No. 22**: New floors at group toilet rooms. Accent tile at walls.
**ALTERNATE No. 23**: New windows at Area E
**ALTERNATE No. 24**: New windows at Area F
**ALTERNATE No. 25**: Data Infrastructure

UNIT PRICES
None.
SECTION 011200-08A – SPECIFIC SCOPE OF WORK – GLASS, GLAZING AND ALUMINUM

SPECIFIC SCOPE – GLASS, GLAZING AND ALUMINUM:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division 00</td>
<td>Procurement and Contracting Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 02</td>
<td>Existing Conditions</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 04</td>
<td>Masonry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 05</td>
<td>Metals</td>
<td>As Applicable</td>
</tr>
<tr>
<td>05 75 00</td>
<td>Decorative Formed Metal</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 07</td>
<td>Thermal and Moisture Protection</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 21 00</td>
<td>Thermal Insulation</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 21 29</td>
<td>Sprayed Insulation</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealants</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 08</td>
<td>Openings</td>
<td>As Applicable</td>
</tr>
<tr>
<td>08 17 00</td>
<td>Integrated Door Opening Assemble</td>
<td>As Applicable</td>
</tr>
<tr>
<td>08 43 13</td>
<td>Aluminum Framed Storefronts</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>08 44 13</td>
<td>Glazed Aluminum Curtain Walls</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>08 70 00</td>
<td>Door Hardware Schedule</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>08 71 00</td>
<td>Door Hardware</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>08 80 00</td>
<td>Glazing</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 26</td>
<td>Electrical</td>
<td>As Applicable</td>
</tr>
<tr>
<td>26 29 00</td>
<td>Low Voltage Controllers</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>

SPECIFIC SCOPE OF WORK – 08A GLASS, GLAZING AND ALUMINUM
ABHA Architects
Project No. 1630
NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Daily Cleanup of debris. If this contractor does not clean the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily.
3. This contractor is responsible for all fall protection and safety requirements associated with this work. When working from either ladders and harnesses, or tie-offs provided by this Contractor, OSHA and Whiting-Turner standards must be met and followed at all times.
4. Provide and pay for all hoisting, rigging, scaffolding, shoring, equipment, etc. required to accomplish the work described herein.
5. Shop drawings are to be completed and submitted to Whiting-Turner no later than three (3) weeks after award of contract. Shop drawings/submittals are to include design data that conform to the project specific performance requirements; reference Contract Documents for all performance requirements. Design data must be signed and sealed by a Professional Engineer registered in the State of Delaware.
6. This Contractor shall strictly adhere to the project schedule and/or durations respective to this scope of work and any change in construction sequencing as may be necessary for the overall benefit of the project.
7. Furnish and install complete aluminum curtainwall and storefront systems, windows, interior aluminum window systems, aluminum doors and other aluminum products; including but not limited to all interior aluminum frame window units, spandrel panels, window trim, break metal, hardware, shims, fasteners, clips and accessories required for a complete installation.
8. This contractor shall demo, remove and dispose of existing windows, storefront and aluminum doors and frames in openings provided under this contract. The intent shall be for the glass contractor to remove existing systems immediately ahead of installation of new materials being installed. At areas of windows or doors that are removed in a given workday, the new window/door system is to be installed in the same workday. At a minimum, areas that are removed in given workday, are to be made secure and water-tight by the end of the same workday. All temporary protection measures are to be completed by this contractor, to the satisfaction of the construction manager and the owner. Demo of materials identified to contain asbestos is by others.
9. Furnish and install all aluminum entrance doors, interior and exterior, and door hardware as shown. Provide any required internal structural supports within framing members or door members.
10. All aluminum windows and doors are to be furnished with glazing as specified within the Contract Documents.
11. This contractor shall install furnish and install all hardware associated with the aluminum entrance systems. Provide cylinders for all aluminum hardware. Keying and cores are by others. Power and low voltage wiring to electrical hardware components will be by others.
12. Provide all-prefinished aluminum materials as specified.
13. Furnish and install the aluminum finish trim for all systems furnished under this package.
14. Provide glazing for all door frames, sidelites and vision panels. Wood and hollow metal doors to be factory glazed and provided by others.
15. This contractor shall field verify all existing rough opening dimensions during the shop drawing review phase.
16. Furnish and install all steel required within storefront openings or within aluminum extrusions that might be necessary to support the storefront system and that meets the designed wind loading criteria.
17. Provide any supplemental framing that is required to properly support the work described herein but not shown on the drawings or specifically assigned to another trade contractor.
18. Furnish and install all flashing, drip edges, stop beads, jamb extensions, sills, stools, in frame insulation, weather stripping, etc. to ensure a water tight system.
19. Provide sill flashing at new windows.
20. Provide any required wood blocking or wood nailers necessary for a complete installation.
21. This contractor is responsible for providing all caulking or sealants integral to the aluminum storefront and/or window systems and exterior caulking to adjacent dissimilar materials (i.e. aluminum to masonry). Interior caulking shall be by the Caulking Contractor.
22. Low rise spray foam at aluminum window heads, sills and jambs as indicated per details on sheet A-611 and A-612 shall be provided by this contractor.
23. Furnish and pay for all engineering, testing, certifications, site visits by manufacturer’s representatives, etc. if required by the contract documents.
24. Coordinate with and make provisions for any security wiring and devices to be installed by others such as but not limited to reinforcement, raceways, cutouts, etc.
25. Include the necessary multiple mobilizations to the jobsite to facilitate the work per the project schedule.

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

NONE

ALTERNATES
Provide all glazing and aluminum work, in accordance with above specific scope of work, as applicable, for the alternates listed below.
Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC.
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
ALTERNATE No. 10: Refurbish auditorium stage.
ALTERNATE No. 11: Replace auditorium seating.
ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL screen wall at Area D north facade.
ALTERNATE No. 14: Replace pool roof.
ALTERNATE No. 15: Replace gymnasium roof.
ALTERNATE No. 16: Replace auditorium roof.
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at classrooms.
ALTERNATE No. 20: Tubular skylights.
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F.

SPECIFIC SCOPE OF WORK – 08A GLASS, GLAZING AND ALUMINUM

ABHA Architects
Project No. 1630
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E.
ALTERNATE No. 24: New windows at Area F.
ALTERNATE No. 25: Data infrastructure.

UNIT PRICES
Provide the following unit prices. Whiting Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices. None.
SECTION 011200-09A – SPECIFIC SCOPE OF WORK – DRYWALL

SPECIFIC SCOPE – DRYWALL:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division 00</td>
<td>Procurement and Contracting Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 02</td>
<td>Existing Conditions</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 05</td>
<td>Metals</td>
<td>As Applicable</td>
</tr>
<tr>
<td>05 40 00</td>
<td>Cold-Formed Metal Framing</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>05 50 00</td>
<td>Metal Fabrications</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 06</td>
<td>Wood, Plastics, and Composites</td>
<td>As Applicable</td>
</tr>
<tr>
<td>06 10 00</td>
<td>Rough Carpentry</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>06 20 00</td>
<td>Finish Carpentry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 07</td>
<td>Thermal and Moisture Protection</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 21 00</td>
<td>Thermal Insulation</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 25 00</td>
<td>Weather Barriers</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 81 00</td>
<td>Applied Fireproofing</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 84 00</td>
<td>Firestopping</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealants</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 95 13</td>
<td>Expansion Joint Cover Assemblies</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 08</td>
<td>Openings</td>
<td>As Applicable</td>
</tr>
<tr>
<td>08 11 13</td>
<td>Hollow Metal Doors and Frames</td>
<td>As Applicable – Addendum #2</td>
</tr>
<tr>
<td>08 14 16</td>
<td>Flush Wood Doors</td>
<td>As Applicable – Addendum #2</td>
</tr>
<tr>
<td>08 17 00</td>
<td>Integrated Door Opening Assembly</td>
<td>As Applicable</td>
</tr>
<tr>
<td>08 70 00</td>
<td>Door Hardware Schedule</td>
<td>As Applicable – Addendum #2</td>
</tr>
</tbody>
</table>
Brandywine School District
Claymont Elementary School Renovation
11/7/2018 (Addendum 2: 12/21/2018)

SPECIFIC SCOPE OF WORK – 09A DRYWALL

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 71 00</td>
<td>Door Hardware</td>
<td>As Applicable – Addendum #2</td>
</tr>
<tr>
<td>Division 09</td>
<td>Finishes</td>
<td>As Applicable</td>
</tr>
<tr>
<td>09 21 16</td>
<td>Gypsum Board Assemblies</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 52 00</td>
<td>Specialty Ceiling Systems</td>
<td>As Applicable</td>
</tr>
<tr>
<td>09 81 00</td>
<td>Acoustical Insulation</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 84 00</td>
<td>Acoustic Room Components</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>

**NARRATIVE:**

1. Include the cost of performance and payment bonds in the base bid.
2. Daily Cleanup of debris. If this contractor does not clean the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily.
3. This contractor is responsible for all fall protection and safety requirements associated with this work. When working from either lifts and harnesses, or tie-offs provided by this Contractor, OSHA and Whiting-Turner standards must be met and followed at all times.
4. A temporary power source will be provided, but it will be the responsibility of this contractor to have a backup power source in case the temporary service goes out. Temporary power will consist of 110V service. If a larger service is required to perform any work in the scope described herein, it will be the responsibility of this contractor.
5. Provide stud post and box headers typ. as shown on S-104.
6. Furnish and install fire treated/pressure treated plywood sheathing at cafeteria vestibule as indicated on sheet A-421.
8. This contractor is required to review all drawings including Structural, Architectural, Mechanical, Electrical, Plumbing, Fire Protection, Equipment and Telecommunications prior to mobilization to site to identify all items that need to be embedded-in, penetrate, or generally coordinated with this package.
9. This contract will be responsible for all exterior stud walls, interior metal stud walls and ceilings, soffits, bulkheads, sheathing, drywall, gypsum board, vapor barriers, batt insulation and sound batt material.
10. Provide all soffit framing and bracing as indicated.
11. Furnish and install all shaft wall assemblies as indicated.
12. Provide all stud wall infills as indicated. Construction of infills shall match the details as shown for that wall type.
13. EIFS at entrance soffits shall be provided by this contractor.
14. Provide soundproofing and fireproofing as detailed. Provide materials as required to meet all ratings as listed.
15. Include knee walls at all vision panels. Match existing wall types unless otherwise noted (ref. A-601).
16. Perimeter type 10 walls to be framed prior to spray insulation. Furnish and install all light gage metal lintels, angles, or clips. Materials installed in areas to receive spray foam shall be installed prior to foam application. This contractor shall account for multiple mobilizations to coordinate this work.
17. This contractor is responsible to provide a dedicated layout crew (either in-house or independent) to perform layout of all walls, all doors, and window openings in walls. This crew must be onsite at the request of the construction manager when areas become available for layout. Layout work will consist of marking lines on the floor with permanent marker and applying a sealer over the markings to keep them from fading.
18. Door frames and windows are to be installed by others. Upon completion of these installations, this contractor is required to verify that the wall framing is plumb and true. This includes verifying that door frames and window frames are plumb and true.

19. This contractor is required to furnish and install all metal framing (interior and exterior); including but not limited to all diagonal bracing, straps, kickbacks, etc. required for the framing system.

20. This contractor will be responsible for coordinating kickback locations with the M/E/P/FP trades. In cases where kickbacks, additional wall support, etc. are in conflict with M/E/P/FP piping, equipment, ductwork, etc., it is the responsibility of this contractor to relocate framing to avoid conflict.

21. Furnish and install all gypsum board and other sheathing on the building, including but not limited to all drywall, cement board, etc. Tape or seal joints as required by the specifications and drawing details.

22. This contractor shall furnish and install all required sealants, both fire rated and acoustical as required at tops, bottoms and sides of walls. This contractor is responsible to provide all fire safing/fire rating per the UL designations as detailed on the partition types drawings.

23. Furnish and install all metal stud framing and gypsum wall board located on top of CMU walls.

24. This contractor shall furnish, install and coordinate all in-wall blocking, kitchen metal and wood for all materials attaching to this contractor’s work including but not limited to casework, bathroom partitions, bathroom/washroom accessories, mechanical/plumbing and/or electrical equipment, window treatments, door hardware, televisions, etc. All wall cabinets, grab bars, toilet partitions and blocking must be fire treated wood. Provide blocking in existing gypsum walls.

25. Exterior window and roof blocking is provided by others.

26. Exposed fire rated plywood used as equipment backing panels is by others.

27. This contractor is responsible to verify that substrates installed under this contract requiring finishes other than paint are with the allowable tolerances for the installation of those finishes.

28. Access doors and panels for access to mechanical, electrical, plumbing and fire protection equipment, valves, etc. are furnished by others for installation by the drywall contractor. Framing for these access doors and panels is by this contractor. It is the responsibility of this contractor to coordinate the size and layout for all access doors and panels with the M/E/P/FP trades. See section 01 31 10, 1.06, F for additional information.

29. Furnish and install all expansion and control joints in wall and gypsum wall board ceiling construction integral to this work.

30. This contractor is responsible to clear all expansion gaps of material and debris prior to close-up. WT must be given at least 24-hour notice in order to perform the proper inspections.

31. All interior metal stud framing is to be fastened top and bottom to the track, both sides. Walls are not to be closed up until this has been inspected (unless the wall is detailed as a slip-track connection).

32. Provide all light gage metal furring, framing, grids, straps, studs, resilient channels, box beams and accessories.

33. Provide gypsum wallboard ceilings as indicated on the contract documents.

34. This contractor is responsible, at all drywall column enclosures, to coordinate the size of the enclosure with M/E/P/FP drawings to allow for additional space required for chases.

35. This contractor shall verify that air and surface temperature, moisture, and humidity conditions are suitable for installation of this work.

36. Provide finishing of all GWB assemblies to levels as indicated in the contract documents.

37. This contractor is responsible to provide angles, filler, caulking and fire safing where partitions abut adjacent construction.

38. This contractor shall provide supplemental lighting for gypsum board finishing if required.

39. Metal corner bead is to be mechanically fastened by screws at all locations.

40. Coordinate with the Painting contractor to patch and prep for finishes as follows:
   A. Drywall subcontractor will complete final sanding of drywall.
B. Painter to apply prime coat (spray and backroll is acceptable).
C. Whiting-Turner, Drywall and Painting Contractors to walk the entire area and review drywall quality. Imperfections will be identified and marked in the field.
D. Drywall contractor will repair all marked imperfections.
E. Painter will proceed with application of 1st coat.
F. Items C and D will be repeated, correcting any remaining imperfections.
G. Balance of work will be completed i.e. millwork, flooring, hardware, etc.
H. Painter will complete final coat by means of rolling/brushing.

41. This contractor shall participate in a sign-off procedure, as established by Whiting-Turner, on a room by room basis after priming and point up, prior to the room being released to receive final coats of paint.

42. Include in your price the cost to perform normal punch-list point-ups at the end of the project prior to move in. This is in addition to point-ups performed in items A-H above.

43. Provide framing and decking of media room platforms. Addendum #2

44. Provide code compliance above ceilings identification markings of fire rated gypsum and CMU walls.

45. Provide metal bench framing and fire treated plywood as detailed on A6/A-508

46. Provide drainage material for type 10 walls and as indicated at spray foam locations.

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

None.

ALTERNATES
Provide all studs and drywall work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC.
ALTERNATE No. 7: Refurbish, refinish, and restrripe gymnasium floor. Paint gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
ALTERNATE No. 10: Refurbish auditorium stage.
ALTERNATE No. 11: Replace auditorium seating.
ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL screen wall at Area D north facade.
ALTERNATE No. 14: Replace pool roof.
ALTERNATE No. 15: Replace gymnasium roof.
ALTERNATE No. 16: Replace auditorium roof.
ALTERNATE No. 17: NOT USED.
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at classrooms.
ALTERNATE No. 20: Tubular skylights.
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F.
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E.
ALTERNATE No. 24: New windows at Area F.
ALTERNATE No. 25: Data infrastructure.

UNIT PRICES
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

None.
SECTION 011200-09B – SPECIFIC SCOPE OF WORK – FLOORING

SPECIFIC SCOPE – FLOORING:
A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoistings, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division 00</td>
<td>Bidding and Contract Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>06 20 00</td>
<td>Finish Carpentry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealant</td>
<td>As Applicable</td>
</tr>
<tr>
<td>09 05 61</td>
<td>Common Work Results for Flooring Preparation</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 30 00</td>
<td>Tiling</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 65 00</td>
<td>Resilient Flooring</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 66 16</td>
<td>Precast Cement Terrazzo Treads and Landings</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 68 13</td>
<td>Tile Carpeting</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 68 16</td>
<td>Sheet Carpeting</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 93 00</td>
<td>Refinishing Wood Flooring</td>
<td>In Its Entirety</td>
</tr>
</tbody>
</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Daily Cleanup of debris. If this contractor does not clean the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily.
3. All trucks are required to clean their tires prior to leaving the project site.
4. Work hours are 7:00 am to 3:30 pm. All contractors are required to be onsite minimum 5 days per week, 8 hours per day. If worker must report to company’s shop or other location prior to being
onsite, arrangements must be made to allow the worker to arrive at the jobsite at 7:00 am and work a full 8 hour shift. Include this cost in the bid.

5. A temporary power source will be provided, but it will be the responsibility of this contractor to have a backup power source in case the temporary service goes out. Temporary power will consist of 110V service. If a larger service is required to perform any work in the scope described herein, it will be the responsibility of this contractor.

6. This project is multi-phased and will require multiple mobilizations.

7. This contractor is required to review all drawings including Structural, Architectural, Mechanical, Electrical, Plumbing, Fire Protection, Equipment and Telecommunications prior to mobilization to site to identify all items that need to be embedded-in, penetrate, or generally coordinated with this package.

8. Temporary lighting will be provided by other. It is the responsibility of this contractor to provide supplemental lighting for this trades work as necessary.

9. This contractor is responsible to provide supplemental heating, if required, to properly install this scope of work.

10. Furnish and install all flooring, base, and accessories including but not limited to Porcelain Floor tile, Textile Composite Tile, Quarry Tile, Rubber tile flooring, Carpet tile, Broadloom Carpet, Vinyl Composite Tile (VCT), Ceramic Wall Tile Glass Mosaic Wall Tile, Porcelain Cove Base, Stainless steel cove trim, Resilient Cove Base, Quarry Cove Base, Grout, Adhesives, Thresholds, Rubber Stair Treads, Walk off carpet tile, marble thresholds, and accessories, etc. Provide solid surfaces as detailed in E3/A508 Addendum #2

11. Provide all preparation work for all flooring in accordance with the manufacturer’s recommendations. Provide testing, inspection, reporting and actions as detailed in section 09 05 61 Part 3.

12. For flooring to be installed over terrazzo, include preparing/abrading/priming and or sealing making ready for flooring. All preparation work shall comply with the adhesive, cementitious underlayment or floor covering manufacturers.

13. In areas of asbestos tile abatement, abatement contractor will remove tile only, adhesive to remain. Remaining adhesives residues must be removed, prior to any new flooring installation. It is the flooring contractors responsibly to remove this adhesive directly after abatement. Assume this work will require a separate mobilization above and beyond flooring installation in each phase. Removal must comply with LEED VOC limits and OSHA silica standard.

14. This contractor shall provide flash patching of the concrete slabs and decks in areas to receive resilient flooring.

15. This contractor shall furnish and install all resilient tile and sheet flooring, base, stair treads and accessories.

16. This contractor shall furnish and install all rubber/vinyl base on the exposed sides and toe kicks of all casework.

17. Provide all required transitions and miscellaneous trim pieces as required.

18. Scrape, broom and vacuum substrate to be covered by flooring immediately before installation.

19. This contractor shall clean all cracks and sawcut control joints.

20. Include in base bid flash patching/skim coating of 100% of the total flooring area include additional patching of 1/8” at all plumbing slab on grade saw cut areas.

21. Provide to provide smooth transitions at terrazzo. See detail A2/I-002

22. Tile contractor to include prep of existing walls to receive new ceramic/porcelain wall tile/wainscot

23. This contractor shall provide minor floor cleaning at the completion of the flooring installation as required in the specification sections. Others will accomplish final/occupancy cleaning.

24. Provide all required and manufacturer approved adhesives and setting bed materials.

25. Provide all required expansion joints and thresholds, sealants, control joins, etc. as required to provide a complete finished product.

26. Furnish and deliver all required attic stock as per the specification requirements.
27. Provide all caulking and sealants as required, including but not limited to control joints and expansion joints. Furnish and install any expansion joints in the flooring products.

28. Coordinate with the Mechanical/Plumbing and Electrical Contractors to insure a neat and flush interface with devices installed in this work.

29. Prepare a mock-up of flooring per the specification requirements, including standard pattern to be approved by the Owner prior to commencement of work. Mock-up shall represent the standard of workmanship for the tile work and shall remain in place unless the Owner/Architect rejects the mock-up based on workmanship, in which case removal of the mock-up is included in this scope of work.

30. Verify that all air and surface temperature, moisture and humidity conditions are suitable for the installation of this work.

31. This contractor shall conduct moisture and/or bond tests on substrate surfaces. Notify WT of any problems/issues 2 weeks prior to installation.

32. This contractor is responsible for hauling of all materials to the jobsite and work area. WT will not provide any laborers or assistance.

33. Temporary water will be provided by others, but the location may not be near your work area.

34. The beginning of this Contractor’s work constitutes acceptance of the floor surface. Notify WT of any problems two weeks prior to starting work.

35. All VCT, seamless flooring, and base seams must be inconspicuous, tight, flat, unpuckered edges, and free of excess adhesive.

36. Provide caulking to match at all flooring to doorframes as required.

37. This contractor shall provide a price to furnish and install alternate 7, Refurbish, refinish, and restripe gymnasium floor and alternate 10: Refurbish auditorium stage, including wood infill. Addendum #2

38. Provide precast terrazzo treads and landings. Note both set of stairs adjacent to ramp in gym lobby to receive terrazzo treads, see I drawings for all locations. Cast in place epoxy resin terrazzo by others

39. For Alternate #22 - Group toilet room floors, existing resinous floor is not going to be demoed, include the cost of preparing substrate to receive tile.

40. Flooring in room C102 is by others Addendum #2

41. Prepare resilient flooring substrate per profile listed in addendum #1. Addendum #2

42. Provide moisture mitigation and self leveling treatment at all areas receiving resilient flooring as detailed in specification 09 05 61 and 09 65 00 and as amended in Addendum #1. Addendum #2

43. Provide mud bed and patching of tile in restroom C128 as result of sanitary saw cutting. Addendum #2

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

1. None.

ALTERNATES
Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED

SPECIFIC SCOPE OF WORK – 09B FLOORING

ABHA Architects
Project No. 1630
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint Gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting
ALTERNATE No. 10: Refurbish auditorium stage.
ALTERNATE No. 11: Replace Auditorium Seating.
ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL Screen Wall at Area D north facade.
ALTERNATE No. 14: Replace Pool Roof.
ALTERNATE No. 15: Replace Gymnasium Roof
ALTERNATE No. 16: Replace Auditorium Roof
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at Classrooms.
ALTERNATE No. 20: Tubular Skylights
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E
ALTERNATE No. 24: New windows at Area F
ALTERNATE No. 25: Data Infrastructure

UNIT PRICES

None.
SECTION 011200-09C – SPECIFIC SCOPE OF WORK – ACOUSTICAL

SPECIFIC SCOPE – ACOUSTICAL:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoistings, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS

Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 26

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division 00</td>
<td>Bidding and Contract Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 02</td>
<td>Existing Conditions</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 09</td>
<td>Finishes</td>
<td>As Applicable</td>
</tr>
<tr>
<td>09 51 00</td>
<td>Acoustical Ceiling Systems</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 52 00</td>
<td>Specialty Ceiling Systems</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 54 23</td>
<td>Linear Metal Ceilings</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 84 00</td>
<td>Acoustic Room Components</td>
<td>In Its Entirety</td>
</tr>
</tbody>
</table>

NARRATIVE:

1. Include the cost of performance and payment bonds in the base bid.
2. Daily Cleanup of debris. If this contractor does not clean the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily.
3. This contractor is responsible for all fall protection and safety requirements associated with this work. When working from either lifts and harnesses, or tie-offs provided by this Contractor, OSHA and Whiting-Turner standards must be met and followed at all times.
4. This contractor is required to review all drawings including Structural, Architectural, Mechanical, Electrical, Plumbing, Fire Protection, Equipment and Telecommunications prior to mobilization to site to identify all items that need to be embedded-in, penetrate, or generally coordinated with this package.
5. Furnish and install all acoustical ceiling systems, complete, per the contract drawings and specifications, including but not limited to grid, hanger wire, fasteners, tile and accessories.
6. Furnish and install suspended acoustical baffles complete as indicated on sheets A121.1 through A122.2 and as detailed on sheet A513 and A-615.
7. Furnish and install acoustic ceiling diffuser panels.
8. Provide Acoustic spray applied finish (ref. Note 7/A121.4).
9. Furnish and install all linear metal soffit as indicated on the reflective ceiling plan and as shown on A313. Include all clips, fasteners, etc. as required for a complete installation.
10. Furnish and install suspended accent canopies as indicated.
11. Layout of radii for all radius soffits is the responsibility of this contractor.
12. Remove and replace acoustical panels in the Auditorium as indicated on A-413.
14. Coordinate ceiling grid and wall angle systems with wall types. All work performed by this Contractor must be coordinated with other trades.
15. Include caulking of the ceiling grid angle to the drywall smoke partition walls where detailed.
16. This contractor shall assume that installations of the ceiling grid, cutting in of the perimeter tiles, and dropping in the full tiles are three separate activities that may not happen at the same time. Assume some of the tiles will be cut earlier than scheduled and turned over to the M/E/P/FP trades.
17. This contractor shall allow time to layout ceiling grid in each room before the Sprinkler Contractor can install their systems and piping. The sprinkler contractor will install all work after this contractor performs layout but before the installation of the grid.
18. Allow for a separate mobilization for and cut all ceiling tiles for the mechanical, electrical, plumbing and fire protection trades.
19. This contractor shall be responsible for touch-up painting of cut ceiling tile edges where exposed.
20. Prior to installing any ceiling tile, this contractor shall verify that air and surface temperature, moisture, and humidity conditions are suitable for the installation of this work. Provide documentation stating this with daily reports.
21. Furnish and install expansion and control joints in ceiling or wall construction integral with this work.
22. Furnish and install any custom metal break shapes as required or noted on the drawings that are integral to the ceiling system.
23. Provide cloud ceilings as noted on note 7 of reflected ceiling plan.
24. Furnish and deliver attic stock as required per the contract documents.

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

Allowance #1 – Include $15,000 for miscellaneous ceiling work as directed by the CM.

ALTERNATES
Provide all acoustical ceiling work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.  
ALTERNATE No. 6: Replace gymnasium HVAC.  
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint gymnasium.  
ALTERNATE No. 8: New backboards and wall pads at gymnasium.  
ALTERNATE No. 9: Replace auditorium house lighting.  
ALTERNATE No. 10: Refurbish auditorium stage.  
ALTERNATE No. 11: Replace auditorium seating.  
ALTERNATE No. 12: Curtain wall at Area D south facade.  
ALTERNATE No. 13: HPL screen wall at Area D north facade.  
ALTERNATE No. 14: Replace pool roof.  
ALTERNATE No. 15: Replace gymnasium roof.  
ALTERNATE No. 16: Replace auditorium roof.  
ALTERNATE No. 17: NOT USED  
ALTERNATE No. 18: Replacing flush valves and wash sinks.  
ALTERNATE No. 19: Bookshelves at classrooms.  
ALTERNATE No. 20: Tubular skylights.  
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F.  
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.  
ALTERNATE No. 23: New windows at Area E.  
ALTERNATE No. 24: New windows at Area F.  
ALTERNATE No. 25: Data infrastructure.  

UNIT PRICES  
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.  

NONE
SECTION 011200-09D – SPECIFIC SCOPE OF WORK – PAINT

SPECIFIC SCOPE – PAINT:
A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division 00</td>
<td>Procurement and Contracting Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 02</td>
<td>Existing Conditions</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 03</td>
<td>Concrete</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 04</td>
<td>Masonry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 05</td>
<td>Metals</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 06</td>
<td>Wood, Plastics, and Composites</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 07</td>
<td>Thermal and Moisture Protection</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealants</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 08</td>
<td>Openings</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 09</td>
<td>Finishes</td>
<td>As Applicable</td>
</tr>
<tr>
<td>09 72 00</td>
<td>Wall Coverings</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 91 13</td>
<td>Exterior Painting</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 91 23</td>
<td>Interior Painting</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>09 93 00</td>
<td>Refinishing Wood Flooring</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 22</td>
<td>Plumbing</td>
<td>As Applicable</td>
</tr>
</tbody>
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NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Daily Cleanup of debris. If this contractor does not clear the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily.
3. This contractor is responsible for all fall protection and safety requirements associated with this work. When working from either lifts and harnesses, or tie-offs provided by this Contractor, OSHA and Whiting-Turner standards must be met and followed at all times.
4. A temporary power source will be provided, but it will be the responsibility of this contractor to have a backup power source in case the temporary service goes out. Temporary power will consist of 110V service. If a larger service is required to perform any work in the scope described herein, it will be the responsibility of this contractor.
5. This contractor is required to review all drawings including Structural, Architectural, Mechanical, Electrical, Plumbing, Fire Protection, Equipment and Telecommunications prior to mobilization.
6. Temporary lighting will be provided by other. It is the responsibility of this contractor to provide supplemental lighting for surface preparation and painting as required to accomplish the work described herein.
7. This contractor shall protect all surfaces from overspray. This includes finished and non-finished surfaces including steel and concrete. Include in your price the masking of finished products that may be installed prior to your painting.
8. This contractor shall promptly clean/remove any overspray from adjacent factory finished materials or glass. Cover ALL glass prior to painting.
9. Furnish and install all painting including but not limited to, at a minimum, one prime coat, priming of all GWB point up and patching, and two final coats at the specified thickness. If sprayed, all (3) coats must be back rolled.
10. Furnish and install all paint/special paint/block filler/epoxy paint coatings and accessory materials where indicated. Review wall sections and elevations for the extent of the work.
11. Provide the painting of all interior and exterior surfaces required by the contract drawings and specifications as shown including but not limited to all concrete, masonry, gypsum wallboard, plaster, wood and metal surfaces, hollow metal doors and frames, reveals, access panels, stairs, exterior materials not prefinished, wood window trim, exposed steel, sprinkler pipe, exposed metal deck, handrails, exterior lintels, bollards, exposed exterior gas piping, and any exposed incoming utilities and piping as required.
12. Clean and prep brick prior to painting.
14. Painting of exposed deck where indicated. Include the cost of prep, including but not limited to: scraping, cleaning, sanding etc. as required to prepare decking to receive paint.
15. Painting of existing bar joists and deck in cafeteria and learning commons.
16. Paint all exposed structure unless noted otherwise.
17. Prep and painting of exposed structure at existing canopy as noted on sheet A-312.
18. Prime and paint the underside of exposed metal stairs. Include all required prep work, including but not limited to scraping, sanding, cleaning, etc. as required to receive paint.
19. Prep and paint existing plaster soffits.
20. Include in base bid the cost for painting interior and exterior of existing window frames as noted on A-310. A deduct alternate shall be provided if window replacement alternate is accepted (ref. Alternates below).
21. Where minimal work is taking place, this contractor shall paint all newly installed conduit.
22. Painting of new exposed roof gas pipe is by this contractor.

SPECIFIC SCOPE OF WORK – 09D PAINT
ABHA Architects
Project No. 1630

Previously bid
Included for
Reference
23. This contractor shall provide painting of all exposed mechanical and electrical items in mechanical rooms and occupied spaces including but not limited to uninsulated metal piping, uninsulated plastic piping, pipe hangers and supports, tanks that do not have a factory applied finish, duct, conduit, paintable insulation, etc.
24. Fire rating, UL, and any other pipe or equipment labels shall not be painted over.
25. This contractor shall include painting of any exterior or rooftop piping, steel, or mechanical devices noted to be painted.
26. This contractor shall cover and protect all sprinkler heads prior to painting ceilings and sprinkler piping. Removal of protection shall be included in this Contractor’s work.
27. Provide painting preparation of all surfaces as required by the paint manufacturer and specification, including but not limited to all items listed in this scope of work.
28. Provide minor prep work to hollow metal and wood trim and gypsum walls prior to installation including but not limited to sanding, scraping, puttying minor dents, minor cleaning and/or dusting, etc. Filling and sanding of nail holes in wood window trim is by others.
29. This contractor shall perform exterior painting of wood, masonry and metal items to receive paint.
30. This contractor shall furnish and install painting of all roof access ladders, elevator pit ladders or other miscellaneous metals items.
31. This contractor shall furnish and install all concrete floor sealers and required primer at all locations noted in the finish schedule.
32. Furnish and install all high performance coatings on concrete, masonry, gypsum wallboard, and steel as noted on the contract drawings. Intumescent paint applied to spray foam is by others.
33. This contractor shall include cost to paint any galvanized steel that is specified to receive paint. Perform all necessary preparation and utilize the correct products to ensure proper paint adhesion.
34. Provide attic stock at a minimum of one labeled and unopened one-gallon container of each paint color, type, and texture used on the project for turnover to the owner at project completion. Provide additional quantities if required by the specifications.
35. The beginning of this contractor’s installation constitutes acceptance of the surface as acceptable to receive paint/finish. Notify WT of any problems two (2) weeks prior to starting work.
36. Verify that all air and surface temperatures, moisture and humidity conditions are suitable for the installation of this work.
37. This contractor shall cover all floor surfaces while painting. This includes finished and unfinished floors. Flooring materials need to bond to bare concrete for their warranty to be accepted. This contractor will be responsible to remove any overspray from floors.
38. Coordinate with the Drywall contractor to patch and prep for finishes as follows:
   A. Drywall subcontractor will complete final sanding of drywall.
   B. Painter to apply prime coat (spray and backroll is acceptable).
   C. Whiting-Turner, Drywall and Painting Contractors to walk the entire area and review drywall quality. Imperfections will be identified and marked in the field.
   D. Drywall contractor will repair all marked imperfections.
   E. Painter will proceed with application of 1st coat.
   F. Items C and D will be repeated, correcting any remaining imperfections.
   G. Balance of work will be completed i.e. millwork, flooring, hardware, etc.
   H. Painter will complete final coat by means of rolling/brushing.
39. This contractor shall participate in a sign-off procedure, as established by Whiting-Turner, on a room by room basis after priming and point up, prior to the room being released to receive final coats of paint.
40. Include in your price the cost to perform normal punch-list touch-ups at the end of the project prior to move in. This shall be in addition to touch-ups performed per items A-H above.
41. Provide painting and protection of existing finish in auditorium.

SPECIFIC SCOPE OF WORK – 09D PAINT

ABHA Architects
Project No. 1630
42. Provide all vinyl wall covering typical of A-412, I-001 and I-002. Rigid sheet vinyl by others.
43. Clean and paint exterior soffits, typical of A-312.
44. Painting in room C102 is by other except for the new block chase wall. Addendum #2

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

Allowance No. 1: Contractor shall provide an allowance of $7,500.00 (seven thousand five hundred dollars) for unspecified miscellaneous point-up and patching work not specified on the Contract Documents. This is not to be used for your punchlist.

ALTERNATES
Provide all painting work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC.
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
ALTERNATE No. 10: Refurbish auditorium stage.
ALTERNATE No. 11: Replace auditorium seating.
ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL screen wall at Area D north facade.
ALTERNATE No. 14: Replace pool roof.
ALTERNATE No. 15: Replace gymnasium roof.
ALTERNATE No. 16: Replace auditorium roof.
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at classrooms.
ALTERNATE No. 20: Tubular skylights.
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F.
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E.
**ALTERNATE No. 24:** New windows at Area F.
**ALTERNATE No. 25:** Data infrastructure.

**UNIT PRICES**
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

None.
SECTION 011200-10A – SPECIFIC SCOPE OF WORK – SPECIALTIES

SPECIFIC SCOPE – SPECIALTIES:
A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 02</td>
<td>Existing Conditions</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 06</td>
<td>Woods, Plastics, and Composites</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 07</td>
<td>Thermal and Moisture Protection</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealants</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 08</td>
<td>Openings</td>
<td>As Applicable</td>
</tr>
<tr>
<td>08 36 13</td>
<td>Sectional Doors</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 09</td>
<td>Finishes</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 10</td>
<td>Specialties</td>
<td>In Its Entirety, Excluding 10 82 00 – Addendum #2</td>
</tr>
<tr>
<td>10 82 10</td>
<td>Aluminum Equipment Screen</td>
<td>By Others – Addendum #2</td>
</tr>
<tr>
<td>11 52 13</td>
<td>Projection Screens</td>
<td>In Its Entirety – Addendum #2</td>
</tr>
</tbody>
</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Daily Cleanup of debris. If this contractor does not clean the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily.

SPECIFIC SCOPE OF WORK – 10A SPECIALTIES 011200-10A - 1
ABHA Architects
Project No. 1630
3. This contractor is responsible for all fall protection and safety requirements associated with this work. When working from either lifts and harnesses, or tie-offs provided by this Contractor, OSHA and Whiting-Turner standards must be met and followed at all times.

4. A temporary power source will be provided, but it will be the responsibility of this contractor to have a backup power source in case the temporary service goes out. Temporary power will consist of 110V service. If a larger service is required to perform any work in the scope described herein, it will be the responsibility of this contractor.

5. This contractor is required to review all drawings including Structural, Architectural, Mechanical, Electrical, Plumbing, Fire Protection, Equipment and Telecommunications prior to mobilization to site to identify all items that need to be embedded-in, penetrate, or generally coordinated with this package.

6. Temporary lighting will be provided by others. It is the responsibility of this contractor to provide supplemental lighting for surface preparation and painting as required to accomplish the work described herein.

7. Furnish and install all toilet and bath accessories, including by not limited to mirrors, paper towel dispensers, toilet tissue dispenser, waster receptacles, grab bars, janitor accessories, sanitary napkin dispensers, shower curtain/rods with the exception of owner furnished items as noted below.

8. Install only toilet accessories supplied by the owner (10 28 00).

9. Furnish all necessary mounting hardware for a complete installation of toilet and bath accessories.

10. Furnish and install all toilet compartments, hardware and installation accessories. This contractor is responsible to coordinate layout and installation of materials to meet all ADA requirements for size, layout and accessory locations. Provide wall/floor stops to protect adjacent finishes as required.

11. Furnish all fire extinguisher cabinets, fire extinguishers and accessories. Recessed cabinets are to be coordinated with the Masonry and Partition contractors as necessary.

12. Furnish and install all automatic external defibrillator cabinets (recessed and/or surface mounted), automatic external defibrillators, and accessories. Recessed cabinets are to be coordinated with the Masonry and Partition contractors as necessary.
23. Furnish and install all preassembled lockers as indicated, including but not limited to metal lockers, hardware, accessories, identification labels, hooks, etc. This shall include lockers shown in the kitchen. Blocking and/or strapping required for the installation of lockers is by others, however this contractor is responsible for coordination of all blocking/strapping with the Drywall Contractor prior to wall close-in.

24. Furnish and install the operable glass partition (E109A) as shown on A-111.5. Door type H on A-601.

25. Provide HDPE toilet partitions.

26. Furnish and install all wall protection and corner guards, FRP, WV, CG and all WPM. See A-411 and A-508 for wood veneer. Provide termination Reglet and J molding as shown in A5 and A-508. Backsplash wall protection integral to casework is by others. Provide WPM, including at casework sink locations as shown on A-402 – A-404. *Addendum #2*

27. Provide alternate pricing for gym equipment Alt #3 and Alt #8. Include removal of back boards and pads for Alt #8.

28. Provide projection screens and ceiling mounted projection mounts. See C1/A-512. Projectors by others. *Addendum #2*

**ALLOWANCES**

Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

**ALTERNATES**

Provide all specialties work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

**ALTERNATE No. 1:** Replace pool pak
**ALTERNATE No. 2:** Replace Pool Lighting
**ALTERNATE No. 3:** Add telescoping bleachers at gymnasium.
**ALTERNATE No. 4:** NOT USED
**ALTERNATE No. 5:** Replace gymnasium lighting.
**ALTERNATE No. 6:** Replace gymnasium HVAC.
**ALTERNATE No. 7:** Refurbish, refinsh, and restrripe gymnasium floor. Paint gymnasium.
**ALTERNATE No. 8:** New backboards and wall pads at gymnasium.
**ALTERNATE No. 9:** Replace auditorium house lighting.
**ALTERNATE No. 10:** Refurbish auditorium stage.
**ALTERNATE No. 11:** Replace auditorium seating.
**ALTERNATE No. 12:** Curtain wall at Area D south facade.
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**ALTERNATE No. 15:** Replace gymnasium roof.
**ALTERNATE No. 16:** Replace auditorium roof.
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at classrooms.
ALTERNATE No. 20: Tubular skylights.
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F.
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E.
ALTERNATE No. 24: New windows at Area F.
ALTERNATE No. 25: Data infrastructure.

UNIT PRICES
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.
SECTION 011200-11A – SPECIFIC SCOPE OF WORK – KITCHEN EQUIPMENT

SPECIFIC SCOPE – KITCHEN EQUIPMENT:
A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<td>Existing Conditions</td>
<td>As Applicable</td>
</tr>
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<td>Thermal and Moisture Protection</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealants</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>11 40 00</td>
<td>Foodservice Equipment</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 21</td>
<td>Fire Suppression</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 22</td>
<td>Plumbing</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 23</td>
<td>HVAC</td>
<td>As Applicable</td>
</tr>
<tr>
<td>23 23 00</td>
<td>Refrigeration Piping</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 26</td>
<td>Electrical</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Review all drawings including civil, structural, architectural, mechanical, electrical, plumbing, fire protection and food service prior to mobilization to identify all items that need to be embedded, penetrate or generally coordinated with kitchen equipment work.
3. Provide all new kitchen equipment per drawings and specifications. Refer to FS series drawings for equipment schedules and details.

SPECIFIC SCOPE OF WORK – 11A KITCHEN EQUIPMENT
011200-11A - 1
ABHA Architects
Project No. 1630
4. Provide factory-trained personnel to oversee equipment of specified equipment required per the equipment manufacturer.
5. Provide roof curbs or racks for outdoor condensing units.
6. Provide incidental material and accessories including fasteners, shims, strainers, sealants, etc. necessary to complete this work.
7. Provide for delivery, unloading, unpacking, erection, assembly and placement of all equipment provided under this package. Provide storage of equipment until need onsite, may require multiple deliveries.
8. Prepare a detailed and dimensioned in-wall wood blocking layout drawing.
9. Provide submittals, product data, shop drawings, etc. for all equipment provided.
10. Provide coordinated and dimensioned drawings for all underslab and in-wall plumbing and electrical rough-in.
11. Prepare all equipment for final mechanical, plumbing and electrical connections. Provide all cord and plug connections where specified.
12. Kitchen equipment floor drains, floor sinks and troughs are to be provided by plumbing contractor.
13. Provide all exhaust hoods and hood suppression/Ansul systems.
14. Hood ductwork and associated testing is by HVAC contractor.
15. Provide all refrigeration piping to kitchen equipment. Provide insulation and heat trace on all refrigeration piping as required.
16. Coordinate with local health department and include all requirements for obtaining final approval of work.
17. Provide all caulking and sealing of kitchen equipment as required.
18. Verify locations of all plumbing and electrical rough-ins and in-wall blocking locations prior to concrete slab placement and wall close-in.
19. Perform start-up and test operation of all new equipment. Coordinate testing with Whiting-Turner.
20. Provide all permits and fees required. New Castle County building permit provided by Whiting-Turner.
21. Instruct owner’s personnel on proper operation and maintenance of new equipment.
22. Provide stainless steel corner guards, wall panels, chases, trim pieces, closure pieces, etc. as shown.
23. Provide walk-in cooler and freezer with associated piping and insulation. Provide closure panels to provide complete assembly. Refer to sheet FS-1.6 for walk-in details.
24. Provide serving line equipment, cashier counters and condiment counters as shown.
25. All equipment listed in the foodservice equipment schedule on sheet FS-1.1 shall be furnished and installed by this contractor, except for the following:
   A. Floor drains, troughs and sinks, provided by 22A contractor.
   B. Point of sale, not in contract – provided by others.
   C. Washer/dryer combo, not in contract – provided by others.
26. Verify kitchen equipment deliveries and installation is coordinated with work of other trades and project schedule.
27. Verify new equipment will fit through new door openings.
28. Protect adjacent floor and wall finishes during delivery and placement of new equipment.
29. Provide procurement log listing all kitchen equipment. Log to be updated for each progress meeting.
30. Obtain and verify field dimensions for all custom fabricated items.
31. Perform final cleaning of all kitchen equipment.
32. Provide warranties and O&M manuals for all equipment.
ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

None.

ALTERNATES
Provide all kitchen equipment work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC.
ALTERNATE No. 7: Refurbish, refinsh, and restripe gymnasium floor. Paint gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
ALTERNATE No. 10: Refurbish auditorium stage.
ALTERNATE No. 11: Replace auditorium seating.
ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL screen wall at Area D north facade.
ALTERNATE No. 14: Replace pool roof.
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ALTERNATE No. 16: Replace auditorium roof.
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at classrooms.
ALTERNATE No. 20: Tubular skylights.
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F.
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E.
ALTERNATE No. 24: New windows at Area F.
ALTERNATE No. 25: Data infrastructure.

UNIT PRICES
None.

SPECIFIC SCOPE OF WORK – 11A KITCHEN EQUIPMENT
ABHA Architects
Project No. 1630

011200-11A - 3
SECTION 011200-12A – SPECIFIC SCOPE OF WORK – CASEWORK

SPECIFIC SCOPE – CASEWORK:
A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoistings, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
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The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<td>Existing Conditions</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 06</td>
<td>Wood, Plastics, and Composites</td>
<td>As Applicable</td>
</tr>
<tr>
<td>06 10 00</td>
<td>Rough Carpentry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>06 20 00</td>
<td>Finish Carpentry</td>
<td>In Its Entirety, As Applicable - Addendum #2</td>
</tr>
<tr>
<td>Division 07</td>
<td>Thermal and Moisture Protection</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealants</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 10</td>
<td>Specialties</td>
<td>As Applicable</td>
</tr>
<tr>
<td>10 11 01</td>
<td>Visual Display Boards</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 12</td>
<td>Furnishings</td>
<td>As Applicable</td>
</tr>
<tr>
<td>12 34 00</td>
<td>Laminate Clad Casework</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>12 36 00</td>
<td>Countertops, Backsplashes, and Window Stools</td>
<td>In Its Entirety</td>
</tr>
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<td>Plumbing</td>
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NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Daily Cleanup of debris. If this contractor does not clear the site to the satisfaction of Whiting Turner, Whiting Turner reserves the right to clean the site with their own forces at the expense of this contractor. Site must be maintained and cleaned daily.
3. This contractor is responsible for all fall protection and safety requirements associated with this work. When working from either lifts and harnesses, or tie-offs provided by this Contractor, OSHA and Whiting-Turner standards must be met and followed at all times.
4. A temporary power source will be provided, but it will be the responsibility of this contractor to have a backup power source in case the temporary service goes out. Temporary power will consist of 110V service. If a larger service is required to perform any work in the scope described herein, it will be the responsibility of this contractor.
5. This contractor is required to review all drawings including Structural, Architectural, Mechanical, Electrical, Plumbing, Fire Protection, Equipment and Telecommunications prior to mobilization to site to identify all items that need to be embedded-in, penetrate, or generally coordinated with this package.
6. Temporary lighting will be provided by others. It is the responsibility of this contractor to provide supplemental lighting for this trades work as necessary.
7. This contractor is responsible for the supply and installation of all casework, tops and associated storage cabinets, shelves, cubbies, computer stations, window seats, etc. This is generally all casework in the classrooms, library, offices, break rooms, bathrooms, etc.
8. Include in the bid the cost to supply and install 6 mil poly with hardboard Masonite or corrugated plastic sheets over all horizontal surfaces and provide cardboard at all vertical surfaces to protect final installed materials and associated finishes. Securely fasten protection in place. Protection must be installed as soon as the work is complete in order to minimize damages. Removal of protection is by others.
9. Repair damage to walls and other finishes as result of installation or delivery.
10. This contractor shall verify that air and surface temperatures, moisture and humidity conditions are suitable for the installation of this work. This contract shall provide air and surface documentation, including relative humidity.
11. This project is pursuing a LEED certification, sustainability design requirements must be followed.
12. Plywood or agrifiber product and associated laminating adhesive must not contain urea-formaldehyde resin.
13. Furnish and install all plastic laminate faced wood cabinets, custom solid-surfacing-material counter tops, custom plastic laminate cabinets, custom plastic-laminate counter tops, custom solid-surfacing curtainwall and storefront sills, wall shelving, etc. including any hardware, fasteners, trim, closure pieces, filler panels, shims, and/or accessories for a complete installation.
14. Solid surface enclosures at lockers, wood *sub-base*, plywood and ledger board as shown on A-511.
15. Furnish and install all blocking, etc. that is internal to the structure of all casework.
16. This contractor is responsible to coordinate all concealed in-wall blocking with the Drywall Contractor. Layout and location information must be provided by this contractor prior to close in.
17. All products supplied must meet the required certifications listed in the specifications. Drawings and specifications must be strictly adhered to for materials used, cabinet, drawer and countertop construction and installation.
18. This contractor shall install and sand wood filler or putty at all joints and hail holes. If finish other than field paint, the finish is the responsibility of this Contractor.
19. This contractor is responsible to prepare and prime any product scheduled to receive a paint finish; field painting is by others.
20. This contractor shall furnish and install all surface mounted blocking required to install the work described herein.
21. Provide and install filler panels as needed. Filler panels are to be neatly scribed to conform to the profile of the adjacent construction.
22. Provide all wall protection at casework typical as shown on A-403. wall protection (WPM) at casework typical as shown on A-403 is by contract 10A. Addendum #2
23. Furnish and install mail pass through as indicated and shown on A-404.
24. Provide solid surface engraved logo as shown on C5/A-515
25. Provide all Fry Reglet reveals within your own work.
26. This contractor is responsible to coordinate and provide cutouts in casework materials for work/equipment provided by other trades, (i.e. Plumbing, Electrical, Security Equipment, etc.).
27. This contractor shall provide all hardware associated with this work.
28. This contractor is responsible to verify wall dimensions and/or provide hold to dimensions to the Drywall Contractor. Shop drawings and casework fabrication may need to precede wall construction.
29. Furnish and install all grommets required.
30. Furnish and install all locks and keys, as indicated by the contract documents.
31. Furnish and install all accessories attached to the casework.
32. Furnish and install all solid surface window stools at new and existing windows.
33. Furnish and install solid surface bench tops as detailed on A-508.
34. Caulking integral to systems under this scope of work shall be provided by this contractor. Caulking of casework and countertops to adjacent dissimilar materials is by others. is by this contractor (12A). Addendum #2 Caulking of solid surface locker surrounds is by 07D - Addendum #4
35. Solid surface in display cases as detailed on sheet A-405 is by carpentry contractor, 06A. Addendum #2

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

None

ALTERNATES
Provide all casework work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
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ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.

SPECIFIC SCOPE OF WORK – 12A CASEWORK
011200-12A - 3
ABHA Architects
Project No. 1630
ALTERNATE No. 10: Refurbish auditorium stage.
ALTERNATE No. 11: Replace auditorium seating.
ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL screen wall at Area D north facade.
ALTERNATE No. 14: Replace pool roof.
ALTERNATE No. 15: Replace gymnasium roof.
ALTERNATE No. 16: Replace auditorium roof.
ALTERNATE No. 17: NOT USED.
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at classrooms.
ALTERNATE No. 20: Tubular skylights.
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F.
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E.
ALTERNATE No. 24: New windows at Area F.
ALTERNATE No. 25: Data infrastructure.

UNIT PRICES
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.
SECTION 011200-12B – SPECIFIC SCOPE OF WORK – AUDITORIUM & GYM SEATING

SPECIFIC SCOPE – AUDITORIUM & GYM SEATING:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division 00</td>
<td>Bidding and Contract Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>12 61 13</td>
<td>Fixed Audience Seating</td>
<td>In Its Entirety</td>
</tr>
</tbody>
</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Supply and install seating, fasteners, numbering, LEED Product data, warranties, shop drawings.
3. Conduct field verification of existing conditions.
4. Base bid – Provide and install Movable seating as shown on A-111.3
5. Provide Pricing for ALTERNATE #3: Add telescoping bleachers at gymnasium and #11: Replace Auditorium Seating.
6. Removal of existing seating for both base bid and alternate is by others.

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

1. None
ALTERNATES
Provide all work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint Gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
ALTERNATE No. 10: Refurbish auditorium stage.
ALTERNATE No. 11: Replace Auditorium Seating.
ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL Screen Wall at Area D north facade.
ALTERNATE No. 14: Replace Pool Roof
ALTERNATE No. 15: Replace Gymnasium Roof
ALTERNATE No. 16: Replace Auditorium Roof
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at Classrooms.
ALTERNATE No. 20: Tubular Skylights
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E
ALTERNATE No. 24: New windows at Area F
ALTERNATE No. 25: Data Infrastructure

UNIT PRICES
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

None.
SECTION 011200-21A – SPECIFIC SCOPE OF WORK – FIRE PROTECTION

SPECIFIC SCOPE – FIRE PROTECTION:
A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<th>Responsibility</th>
</tr>
</thead>
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<td>Division 00</td>
<td>Bidding and Contract Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 84 00</td>
<td>Firestopping</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealants</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 21 – All subsections</td>
<td>Fire Protection</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>28 31 11</td>
<td>Digital Addressable Fire Alarm Systems</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Review all drawings including civil, structural, architectural, mechanical, electrical, plumbing, fire protection and food service prior to mobilization to identify all items that need to be embedded, penetrate or generally coordinated with sprinkler work.
3. Provide all permits and fees required. New Castle County building permit provided by Whiting- Turner.
4. Existing system is to be modified per contract drawings and in accordance with applicable local and national codes. This Contractor has fully informed him/herself as to all existing condition and limitation which are visible and above ground as well as indicated in the contractor documents under which the work as set forth. No allowance will be made to any contractor because of lack of such examination or knowledge. The execution of this contract is construed as conclusive evidence that the contractor has made such examinations.

SPECIFIC SCOPE OF WORK – 21A FIRE PROTECTION
ABHA Architects
Project No. 1630
5. Provide all fire suppression piping, hangers, valves, backflow dry system valve assemblies, sprinkler heads, fittings, fire hose cabinets, hose connection valves, identification devices, drains, labels, tags, alarm devices, flow switches, tamper switches, fire department connection, signage, etc. for a complete automatic fire protection system.

6. This project is phased and will require multiple mobilizations.

7. At the completion of demolition of each phase, this contractor must have a dedicated worker survey and verify the location and sizes of existing utilities. The contractor must also verify clearances needed for equipment, piping and wiring. The path of utilities needs to be determined. All discrepancies need to be detailed in writing to Whiting-Turner.

8. Provide wet and dry systems as required to meet all local codes and inspection agency requirements.

9. Fire Service, fire department connection, backflow preventer are existing and will remain.

10. Provide fire-stopping sealant at all penetrations in fire-rated and smoke walls, floors and ceilings.

11. Furnish access panels to drywall contractor as required for concealed valves or devices of your work. Access panel locations to be coordinated with construction manager.

12. Perform hydraulic testing of all systems prior to fire marshal inspection.

13. Verify all required clearances for all equipment.

14. Provide all cutting, patching, core drilling, sleeves and penetrations as required. Sleeve all penetrations at all walls and floorings. Provide sleeves to the appropriate contractors as required.

15. Provide escutcheons at all exposed pipe penetrations.

16. Provide proper sprinkler head types for any high heat locations.

17. Provide proper sprinkler head types where required for freeze protections.

18. Provide protection at exterior canopies.

19. Provide fire hose valves and cabinets as shown.

20. Provide guards or screen on sprinkler heads as shown.

21. Provide concrete splash blocks at test drain locations.

22. Provide all fall protection and safety measures required to complete this work.

23. Provide scaffolding, rigging, hoisting, security and storage for this work.

24. Coordinate with 3rd party commissioning agent to demonstrate proper system performance and resolve operational problems. See specific commissioning plan, section 01 19 10.

25. Coordinate all power and fire alarm wiring requirements with electrical contractor.

26. MEP COORDINATION:

   Each MEP Contractor shall be responsible to take part in the MEP coordination process. This coordination process will be done using two dimensional drawings. The Mechanical Contractor shall be responsible to take the lead in this process, overlay all other MEP trade coordination drawings and create a totally coordinated set of MEP shop drawings that the MEP systems can be installed to. In addition as-built modifications shall also be the responsibility of the Mechanical Contractor at the completion of the project. Once all as-built modifications are made the Mechanical Contractor shall provide drawings in both hard copy and electronic format as part of the O&M documentation.

   The process will be as follows: Before any coordination drawings are started a coordination meeting will be held. All MEP contractors will be required to attend. At the initial meeting the items to be discussed will be as follows.

   #1 – Electronic software to be used
   #2 – Scale to be used
   #3 – Assignments of layers to each MEP Contractor
   #4 – Sequence of design based on construction sequence through the building

   After the initial meeting all MEP Contractors will be given a copy of the project backgrounds. It will be the Mechanical Contractors responsibility to make sure these backgrounds are imported onto the coordination drawings. In addition steel shop drawings will also be distributed for use in
the coordination process. Each MEP Contractor will create their coordination drawings based on
the layer or elevation given to them in the initial coordination meeting. If any part of their work
extends out of the designated layer they are to notify both the Construction Manager and the
Mechanical Contractor of this potential interference. Once notified the Mechanical Contractor
will research if the potential interference impacts other systems and will present possible
solutions at bi weekly coordination meeting. At the bi weekly coordination meetings these
potential interferences and solutions will be discussed and the least cost solution will be utilized.
All MEP Contractors are responsible to attend these bi weekly meetings and send at least 3 days
in advanced updated files of their coordination drawings to the Mechanical Contractor so the
coordination drawings at the meeting are current. These meeting will continue until the
coordination process is complete. If an MEP Contractor does not see fit to attend these meetings
or if electronic updates of their coordination drawings are not sent to the mechanical contractor in
a timely fashion a $500.00 penalty may be assessed and a credit change order issued to their
contract. Please note that the coordination process is part of building the project. No additional
compensation will be due for relocation of any MEP systems as part of this coordination process.

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material
basis during the project with labor rates and unit prices that will include the allowable overhead and
profit. Any unused portion will be credited from the contract. The allowances can be used for another
purpose at the discretion of the CM at any time:

Allowance #1 Include in the base bid a $10,000 allowance for miscellaneous sprinkler work. This
allowance is for additional work above and beyond work that is shown on the bid documents. This
allowance to be utilized at the sole discretion of Whiting-Turner.

ALTERNATES
Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC
ALTERNATE No. 7: Refurbish, reﬁnish, and restripe gymnasium floor. Paint Gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
ALTERNATE No. 10: Refurbish auditorium stage.
ALTERNATE No. 11: Replace Auditorium Seating.
ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL Screen Wall at Area D north facade.
ALTERNATE No. 14: Replace Pool Roof
ALTERNATE No. 15: Replace Gymnasium Roof
ALTERNATE No. 16: Replace Auditorium Roof
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at Classrooms.
ALTERNATE No. 20: Tubular Skylights
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E
ALTERNATE No. 24: New windows at Area F
ALTERNATE No. 25: Data Infrastructure

UNIT PRICES

None.
SECTION 011200-22A – SPECIFIC SCOPE OF WORK – PLUMBING

SPECIFIC SCOPE – Plumbing:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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<tr>
<td>Division 00</td>
<td>Bidding and Contract Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 03</td>
<td>Concrete</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 04</td>
<td>Masonry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 05</td>
<td>Metals</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 84 00</td>
<td>Firestopping</td>
<td>As Applicable</td>
</tr>
<tr>
<td>07 92 00</td>
<td>Joint Sealants</td>
<td>As Applicable</td>
</tr>
<tr>
<td>14 21 00</td>
<td>Electric Traction Elevator</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 22 – All subsections</td>
<td>Plumbing</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 23 – All subsections</td>
<td>HVAC</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 26 – All subsections</td>
<td>Electrical</td>
<td>As Applicable</td>
</tr>
</tbody>
</table>

NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Provide all fall protection and safety measures required to complete this work.
3. Existing system is to be modified per contract drawings and in accordance with applicable local and national codes. This Contractor has fully informed him/herself as to all existing condition and limitation which are visible and readily accessible, i.e. above acoustical ceilings as well as indicated in the contractor documents under which
the work as set forth. No allowance will be made to any contractor because of lack of such examination or knowledge. The execution of this contract is construed as conclusive evidence that the contractor has made such examinations.

4. Provide all mock-ups as required by specifications. Mock-ups will be used to approve materials and establish level of quality for the work.

5. Review all drawings including civil, structural, architectural, mechanical, electrical, plumbing, fire protection and food service prior to mobilization to identify all items that need to be embedded, penetrate or generally coordinated with mechanical work.

6. Provide all warranties for materials, equipment and labor as specified.

7. Disconnect and reconnect existing HVAC equipment piping as required for equipment that must be raised for new roofing installation. Review architectural drawings for full extent of this work.

8. Provide fire-stopping sealant for all penetrations at wall, floors and ceilings.

9. Field superintendent required on-site at all times contractor’s forces or subcontractor’s forces are working.

10. Furnish access panels as required for concealed valves or devices for installation by others. Access panel locations to be coordinated with construction manager.

11. Provide all permits and fees required. New Castle County building permit provided by Whiting-Turner.

12. Perform hydraulic tests for all systems. All tests to be witnessed by Whiting-Turner. Provide all testing documentation to Whiting-Turner.

13. Verify all required clearances for all equipment.

14. Provide all cutting, patching, core drilling, sleeves and penetrations as required. Sleeve all penetrations at all walls and floorings. Provide sleeves to the appropriate contractors as required.

15. Provide all piping insulation per specifications. Including “Primary” Horizontal rainwater conductors including underside of roof drains. Addendum #4

16. Perform flushing, testing and sterilizing of domestic water systems.

17. Provide complete plumbing system to include all domestic water piping, gas piping, valves, storm water piping, floor drains, vent piping, plumbing fixtures, plumbing equipment, hose bibs, hot water heaters, expansion tanks, circulator pumps, mixing valves, gas regulators, etc.

18. Provide all vents and drains at high and low points in piping.

19. Provide all water balancing.

20. Provide start-up, testing and commissioning of all new equipment and systems as specified. Coordinate with 3rd party commissioning agent to demonstrate proper system performance and resolve operational problems. See specific commissioning plan, section 01 19 10.

21. Verify electrical requirements for new plumbing equipment matches the electrical drawings. Coordinate all power requirements with electrical contractor.

22. Verify plumbing requirements for new kitchen equipment matches the plumbing drawings. Coordinate all plumbing requirements with kitchen contractor.

23. Provide scaffolding, rigging, hoisting, security and storage for this work.

24. Provide 5 days notice prior to shutdown of any system.

25. Provide all supports required for proper installation of this work.

26. Cut all metal decking as required for installation of piping thru the roof and elevated floor slab.

27. Layout and remove concrete slab, excavating, backfilling and placing of concrete at plumbing trenching for sanitary/storm piping, ready for flooring. This contractor is responsible for providing concrete for all trenching preformed within this contract. Scan floors prior to cutting to secure utilities are not cut.

28. Plumbing fixtures, gas/water/storm/sanitary piping and equipment to be demolished, plumbing contractor is responsible to drain, safe-off, isolate, mark all items to be removed. Make the first break to isolate the phase of work. Demo and haul away by Demo contractor. Install any piping/valves to
maintain systems functional in occupied areas of the building. Demolition contractor has savage rights and right of first refusal.

29. Provide mop sinks and shower base.
30. Excavation, install and backfill of new storm line to riser at new cafeteria entrance.
31. Final connection of drains and water to equipment and fixtures provided by kitchen equipment supplier.
32. Provide gas regulators, check absorbers, water heaters, expansion tanks, eye wash stations.
33. All condensate piping and insulation from HVAC equipment to storm or outside discharge is by this contractor, including final connection to unit. Condensate pumps if needed are provided and mounted by HVAC contractor, piped by Plumbing contractor.
34. Include disconnection gas lines of roof-top units, re-piping and reconnection as needed for new equipment.
35. Painting of newly installed roof top gas line is by painter.
36. Provide elevator sump pump and discharge piping.
37. Provide kitchen equipment floor drains, sinks and troughs See Kitchen drawings.
38. Disconnect roof drains for removal by roofer. Roofing contractor to disconnect, provide and install new roof drain fixtures. Plumber to tie in new fixture below deck. Roof drain fixtures by others.

Addendum #4

39. Cap unused and abandoned vents below roof deck as indicated.
40. Provide electronic water cooler with bottle filling station. Install new water filter at time of substantial completion prior to system turnover.
41. Modify water service in room E132.
42. Remove and reinstall new hose bib on exterior for HPL panels see B1/A-211
43. Provide roof penetration items as detailed on A-501 for this contract’s work.

ALLOWANCES

Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

Allowance #1 Include in the base bid a $7,500 allowance for miscellaneous plumbing work. This allowance is for additional plumbing work above and beyond work that is shown on the bid documents. This allowance to be utilized at the sole discretion of Whiting-Turner.

ALTERNATES

Provide all mechanical work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint Gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
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ALTERNATE No. 12: Curtain wall at Area D south facade.
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ALTERNATE No. 16: Replace Auditorium Roof.
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ALTERNATE No. 23: New windows at Area E.
ALTERNATE No. 24: New windows at Area F.
ALTERNATE No. 25: Data Infrastructure.

UNIT PRICES
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

None.
SECTION 011200-23A – SPECIFIC SCOPE OF WORK – HVAC

SPECIFIC SCOPE – MECHANICAL:
A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
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Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

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</tr>
<tr>
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<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>07 53 00</td>
<td>Elastomeric Membrane Roofing</td>
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<td>PVC Thermoplastic Single-ply Roofing</td>
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</tr>
<tr>
<td>076200</td>
<td>Flashing and Sheet Metal</td>
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</tr>
<tr>
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<td>Firestopping</td>
<td>As Applicable</td>
</tr>
<tr>
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<td>Joint Sealants</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 22 –</td>
<td>Plumbing</td>
<td>As Applicable</td>
</tr>
<tr>
<td>All subsections</td>
<td></td>
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</tr>
<tr>
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<td>HVAC</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>All subsections</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Electrical</td>
<td>As Applicable</td>
</tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>28 31 11</td>
<td>Digital Addressable Fire Alarm System</td>
<td>As Applicable</td>
</tr>
</tbody>
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NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Provide all fall protection and safety measures required to complete this work.
3. Provide all mock-ups as required by specifications. Mock-ups will be used to approve materials and establish level of quality for the work.
4. Existing facility is to be modified per contract drawings and in accordance with applicable local and national codes. This Contractor has fully informed him/herself as to all existing condition and limitation which are visible and readily accessible, i.e. above acoustical ceilings as well as indicated in the contractor documents under which the work as set forth. No allowance will be made to any contractor because of lack of such examination or knowledge. The execution of this contract is construed as conclusive evidence that the contractor has made such examinations.

5. Review all drawings including civil, structural, architectural, mechanical, electrical, plumbing, fire protection and food service prior to mobilization to identify all items that need to be embedded, penetrate or generally coordinated with mechanical work.

6. Provide all warranties for material, equipment and labor as specified.

7. Provide daily clean up of your own work, including sweeping.

8. Disconnect and remove all existing finned tube radiator piping at locations shown.

9. Provide complete HVAC system to include all tubing, piping, valves, curbs and rails, VRF, heat recovery units, diffusers, ERU, RTU, air purifier, returns, make up air units, air cooled condensate units, electric cabinet heaters, exhaust fans, heat pumps, ductless splits, heating and ventilation units, sound attenuation units, electric radiant panels, etc.

10. Provide new rooftop insulated equipment curbs for HVAC equipment as shown. Review architectural drawings for full extent of this work.

11. HVAC contractor to provide temporary watertight rigid covers at new curbs for new roof top equipment, keeping building watertight.

12. Disconnect and reconnect existing HVAC equipment piping and/or ductwork as required for equipment for new roofing installation. Review architectural drawings for full extent of this work.

13. Provide fire/smoke-stopping sealant for all penetrations at wall, floors and ceilings.

14. Field superintendent required on-site at all times contractor’s forces or subcontractor’s forces are working.

15. Perform air tests for all systems. All tests to be witnessed by Whiting-Turner. Provide all testing documentation to Whiting-Turner.

16. Verify all required clearances for all equipment.

17. Provide all vibration isolation devices and thrust restraints for all equipment as specified.

18. Provide all cutting, patching, core drilling, sleeves and penetrations as required. Sleeve all penetrations at all walls and floorings. Provide sleeves to the appropriate contractors as required.

19. Provide all necessary items for complete HVAC system. Provide piping, equipment, sheet metal ductwork, double-wall duct, fans, grilles, registers, diffusers, labels, tags, insulation, dampers, access doors and panels.

20. Provide access doors in ductwork as required. Furnish access panels to drywall contractor as required for concealed valves or devices of your work. Access panel locations to be coordinated with construction manager. This includes concealed and finished exposed panels.

21. All equipment used prior to final completion shall be serviced, inspected and cleaned prior to final completion and acceptance by owner.

22. Provide new filters in all equipment prior to final testing and balancing.
28. Provide all grilles and diffusers in walls and ceilings. Coordinate rough opening sizes with appropriate contractors.
29. All ductwork to be delivered to project clean with ends sealed. Upon completion of ductwork installation each day, open ends of duct to be sealed. If ductwork is found to be dirty, duct shall be cleaned by contractor.
30. Automatic Temperature Control is by others. This contractor is responsible for coordination.
31. Provide all start up and air balancing.
32. Provide start-up, testing and commissioning of all new equipment and systems as specified. Coordinate with 3rd party commissioning agent to demonstrate proper system performance and resolve operational problems. See specific commissioning plan, section 01 19 10.
33. Perform all duct leakage testing per specifications. Submit testing procedures to construction manager.
34. Coordinate with electrical contractor to provide shutdown of necessary HVAC equipment upon activation of duct-mounted smoke detectors. Provide control wiring as required. Confirm proper operation with electrical contractor.
35. Provide all motor starters, disconnects, VFDs scheduled to be supplied with new equipment.
36. Verify electrical requirements for new mechanical equipment matches the electrical drawings. Coordinate all power requirements with electrical contractor.
37. Provide scaffolding, rigging, hoisting, security and storage for this work. Crane picks will need to take place when school is not in session.
38. Provide 5 days notice prior to shutdown of any system.
39. Provide all supports required for proper installation of this work.
40. Provide final cleaning of the interior of all new equipment.
41. Cut all metal decking as required for installation of ductwork, piping, equipment thru the roof and elevated floor slab.
42. Install duct smoke and heat detectors in ductwork. Devices provided by electrical contractor.
43. All condensate piping and insulation from HVAC equipment to storm or outside discharge is by plumbing contractor, including final connection to unit. Condensate pumps if needed are provided and mounted by HVAC contractor.
44. HVAC systems to be removed, HVAC contractor to capture refrigerant, drain, safe-off, isolate, mark all items to be removed. Removal and haul away is by demolition contractor. HVAC contractor to make the first break to isolate the phase of work and install any piping/valves to maintain systems functional in other areas of the building. Dropping of units and hauling away is by demo contractor, with the exception of the roof top units.
45. Demo and removal and disposal from roof of all roof top equipment is by this contractor. Cost of dumpsters, trucking and tipping fees is by HVAC contractor. HVAC contractor to provide temporary watertight rigid covers at removed roof top equipment, keeping building watertight.
46. Disconnect condensate from equipment for demo by demo contractor
47. Provide construction filters and change filters at all equipment prior to system turnover.
48. Provide ductwork and louver for residential dryer in kitchen.
49. Hoods provided under kitchen equipment contract and hooked up under this contract of work including final ductwork connection and balancing.
50. Provide concrete or preformed equipment pads if required.

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:
Allowance #1 – Include in the base bid a $15,000 allowance for miscellaneous mechanical. This allowance is for additional mechanical work above and beyond work that is shown on the bid documents. This allowance to be utilized at the sole discretion of Whiting-Turner.

ALTERNATES
Provide all mechanical work, in accordance with above specific scope of work, as applicable, for the alternates listed below.

Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint Gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
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ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL Screen Wall at Area D north facade.
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ALTERNATE No. 15: Replace Gymnasium Roof
ALTERNATE No. 16: Replace Auditorium Roof
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ALTERNATE No. 19: Bookshelves at Classrooms.
ALTERNATE No. 20: Tubular Skylights
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E
ALTERNATE No. 24: New windows at Area F
ALTERNATE No. 25: Data Infrastructure

UNIT PRICES
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

None.
SECTION 011200-26A – SPECIFIC SCOPE OF WORK – ELECTRICAL

SPECIFIC SCOPE – ELECTRICAL:

A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.

B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoisting, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated November 7, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Division 00</td>
<td>Bidding and Contract Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 01</td>
<td>General Requirements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 03</td>
<td>Concrete</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 04</td>
<td>Masonry</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 05</td>
<td>Metals</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 06</td>
<td>Wood, Plastics &amp; Composites</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 07</td>
<td>Thermal and Moisture Protection</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 08</td>
<td>Openings</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 09</td>
<td>Finishes</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 10</td>
<td>Specialties</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 11</td>
<td>Equipment</td>
<td>As Applicable</td>
</tr>
<tr>
<td>142400</td>
<td>Hydraulic Elevators</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 21 – All subsections</td>
<td>Fire Protection</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 22 – All subsections</td>
<td>Plumbing</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 23 – All subsections</td>
<td>HVAC</td>
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</tr>
<tr>
<td>Division 26 – All subsections</td>
<td>Electrical</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>27 00 00</td>
<td>Communications</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 28 –</td>
<td>Electronic Safety and Security</td>
<td>In Its Entirety</td>
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</table>
NARRATIVE:
1. Include the cost of performance and payment bonds in the base bid.
2. Contractor will be responsible for maintaining, repairing, and installing all temporary lights, panels, and receptacles per CM direction. It is the CM’s intent to power permanent panels as quickly as possible to allow temporary power to be demolished and all power to be distributed through the permanent panels. Temporary power will need to be distributed to ensure all trades can work with cords no longer than 100 ft. Lighting will be needed throughout the project interior and will need to be reworked as the job progresses. Interior lighting will be supported and checked daily by this contractor for any repairs that are needed. Removal of ALL temporary electrical equipment will be the responsibility of this contractor. All temporary wiring and lighting must meet current NEC codes. Temporary lighting must never be put on the same circuit as temporary receptacles. All temporary lighting circuits must originate from GFCI protected breakers. The minimum illumination level 5 foot-candles; this shall be maintained by the electrical contractor at all times. Installation of temporary lighting must be per manufacturer’s specifications and in compliance with OSHA, NFPA, NEC and local codes. All temporary will be no less then OSHA requirements.
3. Provide temporary lighting on to meet OSHA standards. Light circuits are to be separate from power circuits. The lighting is to be controlled by labeled breakers or switches. Relocate the temporary lights to coordinate with the installation of partitions so that every room including closets or small storage areas have a minimum of one light.
4. Conduit runs and feeds through occupied areas must take place while school is not in session.
5. When directed by the Construction Manager, remove the existing temporary electrical services that were installed by this contractor.
6. This contactor and their subcontractors working with electrical systems are required to have a written lockout/tagout procedure. A competent person shall be responsible to control all aspects of the LOTO procedure.
7. Review all drawings including civil, structural, architectural, mechanical, electrical, plumbing, fire protection and food service prior to mobilization to identify all items that need to be embedded, penetrate or generally coordinated with electrical work.
8. Furnish and install all interior and exterior electrical power, lighting, fire alarm systems, special systems, and telephone and data communication systems.
9. Building will be occupied at during all phases of construction. Electrical/Data/Fire Alarm demolition should not create outages in occupied areas. Electrical contractor at the begin of each phase, must survey all circuits to be demolished and report all circuits not in current phase that will be affected to WT. These circuits must be re-fed, as to not create an outage.
10. Disconnect existing electrical wiring and devices as indicated.
11. Disconnect existing electrical devices required for ceiling removal at existing restrooms.
12. Disconnect and reconnect existing electrical equipment to allow for roof replacement.
13. Field superintendent required on-site at all times contractor’s forces or subcontractor’s forces are working.
14. Provide all shop drawings, submittals and mock-ups per specifications.
15. Provide warranties and guarantees as specified.
16. Provide all underground electrical utilities, conduit, wire, handholes, concrete, etc. for new site lighting. Provide all excavation, backfill and compaction for underground electrical utilities. Remove excess soil from site as required. Saw cutting removal of asphalt and new asphalt is by this contractor.
17. Sub-grade to be returned to original state after completion of electrical utility work.
Brandywine School District

11/7/2018 (Addendum 2:12/21/2018)

Claymont Elementary School Renovation

SPECIFIC SCOPE OF WORK – 26A ELECTRICAL

18. Provide all interior and exterior concrete pads required for new electrical equipment.
19. Provide pull strings in all empty raceways.
20. Provide electrical inspections as required per construction manager schedule and as required for progress inspections.
21. Provide all telephone and data cabling, equipment, conduit, boxes, cable tray, racks, patch panels, backbone cabling, fiber optic cabling, wireless access points, etc. for complete telephone and data system. Contractor must be familiar with phasing and relocation of MDF and IDF locations, to prevent rework and outages of occupied areas.
22. Wireless access point equipment to be furnished and installed by others. Wire, conduit, jack and box by electrical contractor.
23. Furnish access panels to drywall contractor as required for concealed devices of your work. Access panel locations to be coordinated with construction manager.
24. Provide as-built drawings, O&M manuals and all other closeout documentation required by specifications.
25. Closed circuit TV equipment is furnished and installed by others. Wire, conduit, jack and box by electrical contractor.
26. This contractor is to contract with Avantech for card access and security systems.
27. Provide new fire alarm system as indicated. Fire alarm replacement is phased, existing building to be occupied and must be covered during all phases of construction. Fire Alarm will remain operational during demo. Ensure all FA devises are protected, and the systems are called out during work. Ensure they are back online at the end of every shift. This will need to be coordinated with WT. Provide code compliant coverage of construction area.
28. Provide any and all code-required work for fire alarm and electrical systems, if not shown on the project documents.
29. Provide any power, devices and systems wiring to mechanical fire and/or smoke dampers.
30. Provide all grounding and bonding work as required.
31. Provide all grounding busbars and hardware as shown.
32. Provide power wiring and low voltage wiring and connections for electrified doors and door hardware. Door hardware is provided by carpentry/aluminum contractor, low voltage wiring between hardware is by this contractor. See door hardware schedule in 08 70 00 for extent of electrified hardware. Provide power for listed power supplies. Interface hardware with fire alarm.
33. Provide power wiring and low voltage wiring and connections for overhead doors.
34. All electrical penetrations in floors and walls to be fire-sealed as required.
35. Provide floor boxes.
36. Provide final cleaning of all panels and electrical gear including interior of equipment.
37. Provide all permits and fees required. New Castle County building permit provided by Whiting-Turner.
38. Provide all labels and tags on devices, receptacles, junction boxes, and panels as required. Color code junction boxes and conduit as required by specifications.
39. Color coded low voltage wiring as indicated.
40. Furnish and install motor starters, disconnects, and combination starters for all mechanical equipment that is not supplied with an integral device. Refer to equipment schedules.
41. All equipment used prior to final completion shall be serviced, inspected and cleaned prior to final completion and acceptance by owner.
42. Provide start-up, testing and commissioning of all new equipment and systems as specified.
43. Provide scaffolding, rigging, hoisting, security and storage for this work.
44. Provide 5 days notice prior to shutdown of any system.
45. Provide all supports required for proper installation of this work.
46. Verify electrical and fire alarm requirements for new kitchen equipment matches the electrical drawings. Coordinate all electrical requirements with kitchen contractor.
47. Identify live circuits at saw cut areas for plumber and demo contractor prior to slab cutting and removal.
48. Electrical demo of lights, conduit, gear, conductors, data wiring, anchors. Electrical contractor is to "cut and lowered" items to be demo'ed and piled neatly for haul away and disposal is by demolition contractor. Demolition contractor has savage rights and right of first refusal.
49. Provide concrete slab demo, excavating, backfilling and concrete at electrical trenching, ready for flooring.
50. Provide power management and occupancy sensors
51. Provide all shunt trip breakers.
52. Provide power to elevator sump, oil monitor and low voltage between the two
53. Lighting and power on roof as indicated on E-500
54. Provide additional exit lights as indicated on E600
55. Paint stripe and wording "Keep Clear" for all electrical equipment.
56. Include the cost of off hours and weekend work for conduit and wire pulls that must run through occupied areas to feed panels in the current phase of work. See phasing schedule, there are situations where, conduit and wire runs get installed in phases that happen after the phase that contain the panel.
57. Provide power for TV's and projectors.
58. Provide power and low voltage wiring for projection screens
59. Provide complete area rescue system.
60. Provide public address system. Install and remove existing in phases as to not create outages in occupied parts of building. Newly installed system must be incorporated into existing as to function as one system until existing is decommissioned. Don't include speakers in Auditorium, Gymnasium and Natatorium, system should have the capacity to include these areas in the future.
61. Provide power to building mounted back lit building signage, see elevation for location.
62. Provide power to backlit building signs as shown on elevation B1/A-211
63. Coordinate with 3rd party commissioning agent to demonstrate proper system performance and resolve operational problems. See specific commissioning plan, section 01 19 10.
64. Provide roof penetration items as detailed on A-501 for this contract's work.
65. For pool lighting alternate #2, the water in the pool will not drained. Included lifts, floor protection and scaffolding as required for your work.
66. Provide display case lighting in the custom display cases. See Addendum #1 new drawings E-111.1 and E-111.2 Addendum #2

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

1. **Allowance #1** - Include in the base bid a $75,000 allowance for miscellaneous electrical work. This allowance is for additional electrical work above and beyond work that is shown on the bid documents.

ALTERNATES
Provide all electrical work, in accordance with above specific scope of work, as applicable, for the alternates listed below.
Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC
ALTERNATE No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint Gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
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ALTERNATE No. 17: NOT USED
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ALTERNATE No. 23: New windows at Area E
ALTERNATE No. 24: New windows at Area F
ALTERNATE No. 25: Data Infrastructure

UNIT PRICES
Provide the following unit prices. Whiting-Turner reserves the right to request lump sum or T&M pricing for extra work in lieu of applying unit prices.

None.
SPECIFIC SCOPE – SITEWORK:
A. The provisions outlined in the General Scope of Work shall apply to all items of this section. All work shall be in accordance with the schedule.
B. This work shall include all labor, supervision, material, tools, equipment, shop drawings, submittals, layout, unloading, scaffolding, ladders, hoistings, transportation, taxes, permits, engineering, support functions, insurance, bonds, and any other items or services necessary for and reasonably incidental to the proper execution and completion of the work, whether temporary or permanent, in accordance with all drawings, specifications, addenda, general conditions, requirements, and other related documents as indicated herein. All work shall be furnished and installed unless noted otherwise herein. The scope of work shall include but not be limited to the following specific scope of work:

SPECIFICATION SECTIONS
Prepared by ABHA Architects, dated September 25, 2018:
Volume 1: Divisions 00 – 01
Volume 2: Divisions 02 – 33

The contractor is fully responsible for the technical specification sections as listed below for this Unit of Work. The exception to this is when the note “As Applicable” follows a technical specification section. In that case, other units of work, as defined by the Scope, may also have some responsibility for that particular section. General Conditions, Supplementary Conditions, General Requirements and General Scope Items apply to each and all of the Individual Units of Work.

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</tr>
<tr>
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<td>Electrical</td>
<td>As Applicable</td>
</tr>
<tr>
<td>Division 31 – All subsections</td>
<td>Earth Work</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>Division 32 – All subsections</td>
<td>Exterior Improvements</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>32 14 13</td>
<td>Precast Concrete Unit Pavers</td>
<td>In Its Entirety – Addendum 2</td>
</tr>
<tr>
<td>33 41 00</td>
<td>Storm Drainage</td>
<td>In Its Entirety</td>
</tr>
<tr>
<td>33 41 00</td>
<td>Storm Utility Drainage</td>
<td>In Its Entirety</td>
</tr>
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</table>

NARRATIVE:
SPECIFIC SCOPE OF WORK – 31A SITEWORK
ABHA Architects
Project No. 1630
1. Include the cost of performance and payment bonds in the base bid.
2. Arrange for and coordinate with Miss Utility and other applicable entities to identify and locate existing utilities.
3. Provide, maintain and remove all erosion and sediment control measures as shown.
4. See clarification of work from previously complete bid pack A, items listed in bid pack A are not to be included in bid.
5. Perform all work in accordance with sequence of construction on documents.
6. Provide, maintain and remove fire wash area for trucks and equipment as need for your own work. — Addendum 4
7. Provide all site demolition, clearing and grubbing as indicated. Investigate site and remove all items required to complete all items of work.
8. Provide dewatering and mucking necessary to complete all items of work.
9. Fire and domestic water piping to building is not part of this contract. See documents to see scope of pipe installed in Bid pack A.
10. Provide all fire hydrants. Paint bonnets and install reflective tape as required on new and existing fire hydrants. — Addendum #4
11. Review plumbing drawings for sanitary and storm piping connecting to your work.
12. Provide all storm water management items including piping, structures, manholes, catch basins, concrete cradles, underdrain, rainwater conductor piping, Bio-Retention Basin, outlet structure, rip rap, etc. Provide all excavation, backfill and bedding materials.
13. Provide all site preparation, earthwork, excavation, filling, grading and equipment to achieve final design grades.
14. Provide all asphalt milling, paving demo, paving, compacted stone sub-base, proofrolling, asphalt base course and asphalt topping course as detailed. Base paving and top coat paving to be completed in separate mobilizations.
15. Provide all parking lot and fire lane signage and striping as shown. Include all parking wheel stops as detailed.
16. Provide all safety measures and controls, traffic controls, etc. to comply with all OSHA safety regulations in order to complete this work.
17. Provide continuous site cleaning of project site and adjacent streets resulting from this work. Provide street cleaning Green St and Seminole Ave as needed. Mud and debris on Green St and Seminole Ave resulting from this work must be removed immediately.
30. Field superintendent required on-site at all times contractor’s forces or subcontractor’s forces are working.

31. Provide all fencing shown — Addendum #4

32. Provide all permits and fees required. New Castle County building permit provided by Whiting-Turner. Provide New Castle County Land Use utility permits as required.

33. Provide final topsoil placement and grading at all disturbed areas. Rake topsoil to remove all stone and debris.

34. Provide final seeding as specified. Submit seeding mix design prior to installation. Provide watering as required until new seeded areas are established.

35. Provide all temporary power required to complete your work.

36. ASPHALT CEMENT COST ADJUSTMENT: Payments to the Contractor shall be adjusted to reflect increases or decreases in the Delaware Posted Asphalt Cement Price at time of placement when compared to the Asphalt Cement Base Price at time of bid. The DelawarePosted Asphalt Cement Price will be issued monthly by the Department. Actual quantity of asphalt cement qualifying for any Asphalt Cement Cost Adjustment will be computed on the basis of weight tickets and asphalt percentage from the approved job mix formula. The Asphalt cement cost adjustment will be calculated on grade PG 64-22 asphalt regardless of the actual grade of asphalt used. The Project Asphalt Cement Base Price for the project will be based on the October of 2018 price posted on DelDOT’s website. If the Contractor exceeds the authorized allotted completion time, the price of asphalt cement on the last authorized allotted work day, shall be the prices used for cost adjustment. However, if the industry posted price for asphalt cement goes down, the asphalt cement cost shall be adjusted downward accordingly.

37. Provide bike racks at courtyard and front entrance as shown on A-114 and A-404

38. Monument sign, railings, retaining wall and vehicle charging stations by others

39. Bluestone stair treads at front entrance stairs are by others, concrete footer and structure are by site contractor.

40. Removal of canopy at office entrance is by demolition contract 02A. See demo note D9 on A-103.1. Sidewalk demo is by Sitework contractor.

41. Demo for courtyard and front entrance, ramp, rails, curbs, sidewalks and stairs, See architectural drawings.

42. Remove temporary asphalt path for work at future Courtyard.

43. Provide unit pavers, grading, base and subbase, edging, sand at Courtyard and Front entrance see A-114 and A-404.

44. Provide benches and bench foundations at Courtyard.

45. Provide planting beds, ornamental aggregate, edging, fabric and soil at front entrance See architectural drawings.

46. Provide linear drain as shown on A-314

47. Provide bollards as shown on A-111.1 — Addendum #2

ALLOWANCES
Include the following allowances in the base bid. They will be billed against on a time and material basis during the project with labor rates and unit prices that will include the allowable overhead and profit. Any unused portion will be credited from the contract. The allowances can be used for another purpose at the discretion of the CM at any time:

ALTERNATES
Insert the following alternate prices into the spaces provided on the bid form.

ALTERNATE No. 1: Replace pool pak

SPECIFIC SCOPE OF WORK – 31A SITEWORK
ABHA Architects
Project No. 1630
ALTERNATE No. 2: Replace Pool Lighting
ALTERNATE No. 3: Add telescoping bleachers at gymnasium.
ALTERNATE No. 4: NOT USED
ALTERNATE No. 5: Replace gymnasium lighting.
ALTERNATE No. 6: Replace gymnasium HVAC
ALTERNATE No. 7: Refurbish, refinish, and resurface gymnasium floor. Paint Gymnasium.
ALTERNATE No. 8: New backboards and wall pads at gymnasium.
ALTERNATE No. 9: Replace auditorium house lighting.
ALTERNATE No. 10: Refurbish auditorium stage.
ALTERNATE No. 11: Replace Auditorium Seating.
ALTERNATE No. 12: Curtain wall at Area D south facade.
ALTERNATE No. 13: HPL Screen Wall at Area D north facade.
ALTERNATE No. 14: Replace Pool Roof
ALTERNATE No. 15: Replace Gymnasium Roof
ALTERNATE No. 16: Replace Auditorium Roof
ALTERNATE No. 17: NOT USED
ALTERNATE No. 18: Replacing flush valves and wash sinks.
ALTERNATE No. 19: Bookshelves at Classrooms.
ALTERNATE No. 20: Tubular Skylights
ALTERNATE No. 21: Replace existing windows at Areas D, E, & F
ALTERNATE No. 22: New floors at group toilet rooms. Accent tile at walls.
ALTERNATE No. 23: New windows at Area E
ALTERNATE No. 24: New windows at Area F
ALTERNATE No. 25: Data Infrastructure

UNIT PRICES – Note: The owner reserves the right to request lump sum pricing for extra work in lieu of applying unit prices.

1. Remove unsuitable soils off-site and replace with imported select fill, per c.y.
2. Remove unsuitable soils off-site and replace with 57 stone, per c.y.
3. Import and place select fill, per c.y.
4. Import and place #57 clean stone, per c.y.
5. Asphalt paving, base course per typical detail, per ton.
6. Asphalt paving, top course per typical detail, per ton.
SECTION 01 23 00
ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Description of Alternates.
   B. Procedures for pricing Alternates.
   C. Documentation of changes to Contract Sum and Contract Time.

1.02 RELATED REQUIREMENTS
   A. Document 00 21 13 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.

1.03 BASE BID
   A. The Base Bid shall consist of all work shown or specified in the contract documents, exclusive of any additive alternates specified herein.

1.04 ACCEPTANCE OF ALTERNATES
   A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.
   B. Coordinate related work and modify surrounding work to integrate the work of each Alternate.

1.05 SCHEDULE OF ALTERNATES
   A. State in the Bid Form the amount to be added to or deducted from the Base Bid amount.
   B. The description of Alternates contained herein is in summary form. Detailed requirements for materials and execution shall be as specified in other sections and as shown on drawings.

   1. Alternate No. 1: Replace pool pak
      a. Alternate: Disconnect and remove existing gas, refrigerant line from AHU to ACC, electric wiring, control wiring, and accessories. Disconnect and remove supply and exhaust duct and duct insulation from point indicated on drawings. Remove in its entirety both existing AHU and ACC and prepare for installation of new AHU and ACC. New AHU and ACC shall be installed on existing dunnage. Install new duct and installation from existing duct to new AHU. Provide new power and control wiring to new AHU and ACC.
      b. Base Bid: Existing pool pak to remain.

   2. Alternate No. 2: Replace Pool Lighting
      a. Alternate: Remove existing light fixtures at pool and replace with ceiling and wall mounted fixtures as indicated on electrical drawings.
      b. Base Bid: Existing lighting to remain

   3. Alternate No. 3: Add telescoping bleachers at gymnasium
      a. Alternate: Provide telescoping bleacher to match existing as shown on drawing A-111.2 and specification section 12 66 13—Telescoping Bleachers
      b. Base Bid: No telescoping bleachers to be provided.

   4. Alternate No. 4: NOT USED

   5. Alternate No. 5: Replace gymnasium lighting.
3. **Alternate No. 6: Replace gymnasium HVAC**
   a. Alternate: Disconnect and remove existing H&V units hung from steel in its entirety including piping, duct, insulation, supports and hangers, power wiring, control wiring, and accessories. Remove existing relief ventilators in its entirety including power wiring, control wiring, dampers, and accessories. Cap and insulate roof opening upon removal of ventilators. Install two (2) new H&V units on roof in location shown on drawings. Run new duct from new H&V units. Refer to drawings for locations and size. Remove roof exhaust vents and patch penetrations and re-roof.
   b. Base Bid: Existing gymnasium mechanical system to remain.

4. **Alternate No. 7: Refurbish, refinish, and restripe gymnasium floor. Paint Gymnasium**
   a. Alternate: Refinish existing gymnasium floor as outlined on drawings and specification section 09 93 00 – Refinishing Wood Flooring. Paint gymnasium walls as indicated on finish schedule and plans.
   b. Base Bid: Existing floor to remain.

5. **Alternate No. 8: New backboards and wall pads at gymnasium**
   a. Alternate: Provide backboards and wall pads as indicated on drawings and specification section 11 66 23 – Gymnasium Equipment.
   b. Base Bid: Existing backboards and wall pads to remain.

6. **Alternate No. 9: Replace auditorium house lighting**
   a. Alternate: Refinish and repair stage as outlined on drawings and specification section 09 93 00 – Refinishing Wood Flooring.
   b. Base Bid: Existing floor to remain.

7. **Alternate No. 10: Refurbish auditorium stage**
   a. Alternate: Refinish and repair stage as outlined on drawings and specification section 09 93 00 – Refinishing Wood Flooring.
   b. Base Bid: Existing floor to remain.

8. **Alternate No. 11: Replace Auditorium Seating**
   a. Alternate: Remove all existing auditorium seats and replace as outlined on drawings and specification section 12 61 00 – Fixed Audience Seating.
   b. Base Bid: Demo existing seating for construction of new cross aisle. All existing seating outside the scope of cross aisle construction to remain.

9. **Alternate No. 12: Curtain wall at Area D south facade**
   a. Alternate: Existing wall to be demolished back to existing steel. New curtain wall system and masonry wattertable to be constructed as indicated on drawing A-620.
   b. Base Bid: Punched window openings to match existing as shown on drawings. Existing brick and plaster facade to be painted.

10. **Alternate No. 13: HPL Screen Wall at Area D north facade**
    a. Alternate: Provide high pressure laminate (HPL) screen wall Type WP2 on roof at north facade of Area D as shown on drawings D1/A-212, and A-614. Provide structural steel as indicated on structural drawings. Provide roof flashing around structural penetrations.
    b. Base Bid: No HPL screen wall to be provided. No additional structure or roofing required.

11. **Alternate No. 14: Replace Pool Roof**
    a. Alternate: Demo asphalt roof system to existing deck and provide new insulation and roofing membrane as indicated on drawings.
b. **Base Bid:** Existing roof to remain. If alternate #1 is accepted provide new roof curbs and flashing for mechanical unit replacement.

15. **Alternate No. 15: Replace Gymnasium Roof**
   a. **Alternate:** Demo existing cold tar roof system down to existing deck and provide new insulation and roof membrane as indicated on drawings.
   b. **Base Bid:** Existing roof to remain.

16. **Alternate No. 16: Replace Auditorium Roof**
   a. **Alternate:** Demo existing asphalt roof and provide new insulation and roofing membrane as indicated on drawings.
   b. **Base Bid:** Existing roof to remain.

17. **Alternate No. 17: NOT USED**

18. **Alternate No. 18: Replacing flush valves and wash sinks.**
   a. **Alternate:** Remove and replace existing urinal flush valves at locations indicated on plumbing drawings. Remove and replace existing toilet flush valves at locations indicated on plumbing drawings. Remove and replace existing wash sinks at locations indicated on plumbing drawings. Replace metering faucets for lavatory's in areas shown on the plumbing drawings.
   b. **Base Bid:** Remove and replace existing urinal flush valves at locations indicated on plumbing drawings. Existing toilet flush valves to remain, existing wash sinks to remain.

19. **Alternate No. 19: Bookshelves at Classrooms.**
   a. **Alternate:** Provide custom bookshelves at all classrooms in Areas E & F. See D3/A-403 for detail.
   b. **Base Bid:** Bookshelves not provided.

20. **Alternate No. 20: Tubular Skylights**
   a. **Alternate:** Provide tubular skylights at classrooms E210 & E242. Provide necessary roof penetrations and coordinate with roofing and ceiling installation. See drawing A-122.1 for device locations and specification 08 62 50 - Tubular Daylighting Devices for details.
   b. **Base Bid:** No skylights provided.

21. **Alternate No. 21: Replace existing windows at Areas D, E, & F**
   a. **Alternate:** Remove existing aluminum windows and replace in kind as indicated on drawing A-622. Remove existing precast sills and replace. Remove existing slate window stools and replace with solid surface. Existing lintels to be primed and painted.
   b. **Base Bid:** Existing windows at Areas D, E, & F to remain. Remove existing slate window stools and replace with solid surface. Existing lintels to be primed and painted.

22. **Alternate No. 22: New floors at group toilet rooms. Accent tile at walls.**
   a. **Alternate:** Toilet rooms E122, E123, E126, E127, E128, and E129 to receive porcelain floor tile. Clean existing floors, address any existing cracks and provide floor prep as outlined in spec section 09 30 00 - Tiling. See I-001 Finish Schedule for details on flooring. E122, E123, E127, E129 to receive wall tile accent band at existing walls. At each toilet room remove 100sf of existing tile and replace with accent porcelain wall tile. See I-001 Finish schedule for details.
b. Base Bid: Existing flooring and wall tile to remain. Walls to be painted above tile wainscot.

23. Alternate No. 23: New windows at Area E
   a. Alternate: Sawcut for new window openings, provide structure as indicated on structural drawings, provide precast sills, solid surface window stools, aluminum windows, HPL paneling, and aluminum window trim as indicated on floor plans and elevations.
   b. Base Bid: No windows provided, no sawcutting required. Remove existing louvers, infill with cmu and brick masonry, apply rigid insulation at cavity, and paint existing lintels and brick masonry.

24. Alternate No. 24: New windows at Area F
   a. Alternate: Sawcut for new window openings, provide structure as indicated on structural drawings, provide precast sills, solid surface window stools, aluminum windows, HPL paneling, and aluminum window trim as indicated on floor plans and elevations.
   b. Base Bid: No sawcutting required. Remove existing louvers, infill with cmu and brick masonry, apply rigid insulation at cavity, and paint existing lintels and brick masonry.

25. Alternate No. 25: Data Infrastructure
   a. Alternate:
   b. Base Bid:

PART 2 PRODUCTS - NOT USED
PART 3 EXECUTION - NOT USED

END OF SECTION
SECTION 01 25 00
CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

1.2 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions" or comparable form.

1.3 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Construction Manager will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Proposal Requests issued by Construction Manager are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.

2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

   a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

   b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

   c. Include costs of labor and supervision directly attributable to the change.

   d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Construction Manager.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

4. Include costs of labor and supervision directly attributable to the change.

5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

6. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
C. Proposal Request Form: Use AIA Document G709 or approved comparable forms for Proposal Requests.

1.4 CHANGE ORDER PROCEDURES


1.5 CONSTRUCTION CHANGE DIRECTIVE

   1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
   1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
SECTION 01 26 50
CHANGE ORDER REQUEST SUBMISSION FORMAT

The following is a general listing of requirements relating to change order work. Refer to the Contract, General Conditions, Supplementary Conditions, General Scope, and Specification for full requirements.

1. Refer to the Supplementary General Conditions for the Allowable overhead and profit Mark-ups.

2. Any proposed change order / request for the project must be submitted in the format example shown in this specification section.

3. All labor and material costs must be separated with their applicable mark-ups detailed.

4. Whiting-Turner, the Owner, or the Architect may request additional breakdown information, back-up, etc., at their discretion at any time.

5. Each price submitted must include the following:
   a. Detailed description of the issue.
   b. Location in the building.
   c. Reason why it’s extra
   d. Drawing, Specification or other documentation references.
   e. RFI reference
   f. Submittal reference
   g. WT price request reference

6. For price requests or time and material work, obtain approval from the Whiting-Turner project manager in writing prior to proceeding with the extra work.

7. Notify Whiting-Turner in writing immediately (with 24 hours) upon discovering an extra work issue.

8. Any work authorized to proceed on a time and material basis must have the T+M tickets signed daily by Whiting-Turner.

9. Extra work prices or unsigned T+M tickets forwarded after the work is completed will not be accepted.

10. For emergency work that may impact the schedule, verbal cost budgets must be submitted immediately. The work may be authorized to proceed at the Whiting-Turner project manager’s and/or owner’s discretion.

11. Return extra work price requests in 5 days. Finalize T+M tickets in 5 days.

12. Any item of extra work that cannot be agreed upon at a fixed price will be performed on a time and material basis that is not to exceed an agreed upon budget.
Labor Bill Rates & Change Request Submission Formats

A. Labor Billing Rate Calculation – Example

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Rate</td>
<td>$17.40</td>
</tr>
<tr>
<td>Fringe Benefits *@% of base rate</td>
<td>8.53</td>
</tr>
<tr>
<td>Subtotal Rate</td>
<td>$25.93</td>
</tr>
<tr>
<td>Insurance &amp; taxes ** @% of subtotal rate</td>
<td>9.07</td>
</tr>
<tr>
<td>Subtotal - Labor Rate</td>
<td>$35.00</td>
</tr>
<tr>
<td>Overhead &amp; Profit @ 15%***</td>
<td>5.25</td>
</tr>
<tr>
<td>Total – Hourly Billing Rate</td>
<td>$40.25</td>
</tr>
</tbody>
</table>

NOTE:

* The fringe benefit includes health, welfare or retirement benefits, vacation, holiday or sick leave pay.

** The insurance and taxes include employer payment for unemployment insurance, worker’s compensation, FICA, Bonds, Gross Receipts, etc.

*** Allowable mark-up will decrease on a scale based on the total amount of the proposed change. Refer to the supplementary general conditions for additional information. This note is typical for all of the examples above and below.

B. Change Directive Calculation

1. Trade Contractor

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor Billing Rate$35/hr x 50 hrs</td>
<td>$1,750.00</td>
</tr>
<tr>
<td>Fee (overhead &amp; profit) @15%***</td>
<td>262.50</td>
</tr>
<tr>
<td>Subtotal Labor</td>
<td>$2,012.50</td>
</tr>
<tr>
<td>Material or Equipment</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>Fee (overhead &amp; profit) @15%***</td>
<td>300.00</td>
</tr>
<tr>
<td>Subtotal Material</td>
<td>$2,300.00</td>
</tr>
</tbody>
</table>

Total Costs $4,312.50
2. **Subcontractor / Trade Contractor**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Labor Billing Rate ($35/hr x 50hrs)</td>
<td>$1,750.00</td>
</tr>
<tr>
<td>Fee (sub overhead &amp; profit) @15%***</td>
<td>265.50</td>
</tr>
<tr>
<td><strong>Subtotal-Labor</strong></td>
<td>$2,012.50</td>
</tr>
<tr>
<td>Sub-Material or Equipment</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>Fee (sub overhead &amp; profit) @15%***</td>
<td>300.00</td>
</tr>
<tr>
<td><strong>Subtotal-Material</strong></td>
<td>$2,300.00</td>
</tr>
<tr>
<td><strong>Total Costs-Subcontractor</strong></td>
<td><strong>$4,312.50</strong></td>
</tr>
</tbody>
</table>

Fee payable to contractor
- Subcontractor Labor and Material $4,312.50
- Contractor overhead & profit @ 5% 215.62

**Total Costs** $4,528.12

3. **Sub-Subcontractor / Subcontractor / Trade Contractor**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-con. Labor Billing Rate ($35/hr x 50hrs)</td>
<td>$1,750.00</td>
</tr>
<tr>
<td>Fee (overhead &amp; profit) @15%***</td>
<td>262.50</td>
</tr>
<tr>
<td><strong>Subtotal-Labor</strong></td>
<td>$2,012.50</td>
</tr>
<tr>
<td>Sub-con. Material or Equipment</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>Fee (overhead &amp; profit) @15%***</td>
<td>300.00</td>
</tr>
<tr>
<td><strong>Subtotal-Material</strong></td>
<td>$2,300.00</td>
</tr>
<tr>
<td><strong>Total Costs – Sub-subcontractor</strong></td>
<td><strong>$4,312.50</strong></td>
</tr>
</tbody>
</table>

Fee payable to Sub-Contractor
- Sub-subcontractor Labor and Material $4,312.50
- Subcontractor overhead & profit @5% 215.63

**Total Costs – Subcontractor** $4,528.13

Fee payable to Trade Contractor
- Subcontractor Labor and Material $4,528.13
- Contractor overhead & profit @5% 226.41

**Total Costs** $4,754.54

END OF SECTION
SECTION 01 29 00
PAYMENT PROCEDURES

1. The following documents are included in section 006200:
   A. AIA Document G732, Application and Certification for Payment, Construction Manager as
      Advisor Edition
   B. AIA Document G703, Continuation Sheet

2. A PENCIL (Proof) copy of the proposed Application for Payment must be submitted by the 20TH of
   the month to the WT Project Manager.

3. Upon approval of the Pencil copy by the WT Project Manager, the ORIGINAL Application for
   Payment must be submitted by the 25TH of the month to:
      Whiting-Turner Contracting Company
      C/O Brandywine School District
      3305 Green Street
      Claymont, DE 19703

4. Typical errors on invoice submissions are as follows. Please review this list prior to submitting your
   invoice. Invoices with errors will be returned. Typical errors:
   A. AIA forms used must be the correct documents.
   B. AIA forms must be original documents, not copies.
   C. Invoice should reference the School District’s Purchase Order number.
   D. Math is incorrect.
   E. Invoice is not notarized.
   F. Schedule of Values needs to be approved in advance prior to submission of invoice. It should
      be broken down by phases, floors, areas, systems, materials, labor, allowances, alternates, etc.
   G. Schedule of Values must list a line item for close-out documents: (As-Builts, Warranties,
      Operations and Maintenance Manuals, Training Sessions, AIA close-out documents, etc.)
      i. $2,500 minimum, OR
      ii. 1% of total contract amount, whichever is greater.
   H. Retainage amount is incorrect. Should be 5%.
   I. Amount billed does not match work in place on site (obtain WT’s prior approval)
   J. Invoice is addressed improperly, should be addressed to:
      Brandywine School District
      1311 Brandywine Boulevard
      Wilmington, DE 19809
      (But delivered to Whiting-Turner)
   K. Insurance certificate has expired. Current insurance must be on file.
   L. Trade Contractor’s Partial Release of Liens not attached.
   M. Invoice is billing for stored materials, copies of shipping receipts, invoices, and an insurance
      certificate for the building which houses the materials must be attached.
   N. Invoice is billing for extra work that has not yet appeared on an AIA G701 Change Order.
   O. Second tier Contractors / Suppliers Partial Release not attached.
   P. Daily field reports or Safety meeting minutes have not been forwarded to the WT
      superintendent.
   Q. Copies of Certified payroll reports have not been submitted.
   R. Punchlist is not complete (applicable at end of project).
   S. Close out documents not received or incomplete (applicable at end of project).

END OF SECTION
SECTION 01 31 00
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on the Project including, but not limited to, the following:
   1. Coordination Drawings.
   2. Project meetings.

B. See Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

1.2 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
   1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
   2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
   3. Make adequate provisions to accommodate items scheduled for later installation.
   4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
   1. Preparation of Contractor's Construction Schedule.
   2. Preparation of the Schedule of Values.
   3. Installation and removal of temporary facilities and controls.
   4. Delivery and processing of submittals.
   5. Progress meetings.
   6. Pre-installation conferences.
   7. Project closeout activities.
   8. Startup and adjustment of systems.
   9. Project closeout activities.
1.3 SUBMITTALS

A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
   a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
   b. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

2. Sheet Size: At least 8-1/2 by 11 inches but no larger than 30 by 40 inches.

3. Number of Copies: Submit three opaque copies of each submittal. Architect will return one copy.

4. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

1.4 PROJECT MEETINGS

A. General: Coordinate, schedule and conduct meetings and conferences at Project site with the Construction Manager.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Construction Manager, Owner and Architect of scheduled meeting dates and times.

2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.

3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Construction Manager, Owner and Architect, within three days of the meeting.

B. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Construction Manager and Architect of scheduled meeting dates.

2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
   b. Options.
   c. Related requests for interpretations (RFIs).
   d. Related Change Orders.
   e. Purchases.
   f. Deliveries.
   g. Submittals.
   h. Review of mockups.
i. Possible conflicts.
j. Compatibility problems.
k. Time schedules.
l. Weather limitations.
m. Manufacturer's written recommendations.
n. Warranty requirements.
o. Compatibility of materials.
p. Acceptability of substrates.
q. Temporary facilities and controls.
r. Space and access limitations.
s. Regulations of authorities having jurisdiction.
t. Testing and inspecting requirements.
u. Installation procedures.
v. Coordination with other work.
w. Required performance results.
x. Protection of adjacent work.
y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.

4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.

5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

C. Progress Meetings: Conduct progress meetings at regular intervals. Coordinate dates of meetings with preparation of payment requests.

1. Attendees: In addition to representatives of Construction Manager, Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
   a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Provide digital and hard copies of the construction schedule to the Construction Manager on a monthly basis unless indicated otherwise within the Construction Documents.
   b. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
      1) Review schedule for next period.
   c. Review present and future needs of each entity present, including the following:
      1) Interface requirements.
      2) Sequence of operations.
      3) Status of submittals.
      4) Deliveries.
      5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Status of correction of deficient items.
14) Field observations.
15) Requests for interpretations (RFIs).
16) Status of proposal requests.
17) Pending changes.
18) Status of Change Orders.
19) Pending claims and disputes.
20) Documentation of information for payment requests.

3. Minutes: Record the meeting minutes.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
   a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION
1.01 PROJECT COORDINATION

A. Every Trade Contractor shall be responsible for the coordination of the progress of their work with the progress of all other Trade Contractor's work.

B. Inasmuch as Project completion within the time limit is dependent upon cooperation of those engaged therein, it is imperative that each Trade Contractor perform his work at such time and in such a manner as not to delay or otherwise interfere with work progress of other Trade Contractors. If any Trade Contractor's work depends upon proper execution or results of another Trade Contractor's work, the former shall inspect the work and report any defects therein to the Construction Manager.

C. Trade Contractors shall afford each other every reasonable opportunity for installation of their work, and shall work in conjunction with each other in order to facilitate proper and intelligent execution of work.

D. Plans are generally diagrammatic, and each Trade Contractor shall coordinate his work with the work of others, so that interference between mechanical and electrical work and architectural and structural work does not occur. Each Trade Contractor shall furnish and install offsets, bends, turns, and the like in connection with his work to avoid interference with work of other Trade Contractors, to conceal work where required, and to secure necessary clearance and access for operation and maintenance. In case of interference or lack of clearance and access, the Construction Manager will be notified immediately, and shall, in turn, notify the Architect. The Architect will decide which work shall be relocated, regardless of which was installed first.

E. Systems Coordination Drawings

1. Systems Coordination Drawings are required from the Mechanical, Electrical, Fire Protection, and General Trade Contractors with the lead role assigned to the Mechanical Trade Contractor.

2. The Mechanical Trade Contractor shall prepare 1/4" = 1ft. scale Reproducible Systems Coordination Drawings for all areas with piping and ductwork. At critical areas of coordination (risers/shafts, mechanical, electrical and communications rooms), larger scale drawings may be required as determined by all Trade Contractors. Drawings to indicate spatial relationship of all HVAC piping and ductwork.

3. The Mechanical Trade Contractor shall prepare and submit, to the Construction Manager, a regularly updated schedule indicating the development and review of these drawings with other Trade Contractors. The drawing development and review schedule must follow the project construction schedule.

4. The Mechanical Trade Contractor shall provide the Reproducible Systems Coordination Drawings to other Trade Contractors for their input and review. The routing is as follows: HVAC, Fire Protection, Plumbing, Electrical, and General Works with the
drawings being returned to the Mechanical (HVAC) Trade Contractor.

5. Each Trade Contractor will add the work of his Contract on the System Coordination Drawings to avoid interferences. All piping, equipment, light fixtures, sprinkler heads and in-ceiling equipment, such as rolling gates, must be shown on these drawings to include elevations and dimensions. Trade Contractors shall also consider future access for maintenance clearances required around equipment. If there are items on the systems coordination drawings which modify the design of the contract drawings, each Trade Contractor must highlight these areas by clouding, numbering, and referencing them to the affected contract drawings to allow proper review by each Trade Contractor and the Architect/Engineer.

6. Prior to forwarding the Systems Coordination Drawings to the next Trade Contractor, an approval stamp, initialed and dated, should be affixed by the reviewing Trade Contractor. This approval shall signify that the Trade Contractor will install his work accordingly.

7. During the Systems Coordination Drawing process, the Construction Manager will conduct regularly scheduled meetings. Each Trade Contractor is required to attend these meetings. The Construction Manager is responsible for recording and distributing meeting minutes to all Trade Contractor and the Architect/Engineer. The purpose of the meetings will be to review and discuss interferences and conflicts which required modifications to the Systems Coordination Drawings. All resolutions of interferences and conflicts which required modifications, shall be initialed by the appropriate Trade Contractors on the Systems Coordination Drawings. Conflicts that result after the coordination drawings are signed-off will be the responsibility of the Contractor who installed the work improperly. Coordination participants that fail to cooperate in the coordination Drawings effort, will be responsible for all costs incurred for adjustments to the work made necessary to accommodate installations. Coordination drawings shall be updated on a periodic basis and shall reflect all changes. At each meeting, the Trade Contractors will review and update the Systems Coordination Drawing Schedule.

8. Once reviewed and approved by each Trade Contractor, the Mechanical Trade Contractor will prepare the Final Reproducible Systems Coordination Drawings with the work of all trades included. Submit the Reproducible drawings along with five (5) prints to the Construction Manager who will forward to the Architect for his review.

9. The Mechanical Trade Contractor shall indicate any unresolved conflicts or interferences on the Systems Coordination Drawings. Those should be delineated by clouding, number and referencing to the affected contract drawings.

10. The Architect will review and return to the Construction Manager. The Construction Manager will distribute the number of drawings to the Trade Contractors for installation of their work.

11. The Systems Coordination Drawings DO NOT REPLACE ANY SHOP DRAWINGS FABRICATION AND LAYOUT DRAWINGS REQUIRED BY SPECIFICATION SECTIONS.
1.02 **FIELD ENGINEERING**

**A. Inspection:**

1. Each Trade Contractor shall verify locations of survey control points prior to starting work. Promptly notify Construction Manager of any discrepancies discovered.

2. The Trade Contractor shall verify all measurements of the building and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of differences between actual dimensions and the measurements indicated on the drawings; any difference which may be found should be submitted to the Architect for consideration before proceeding with the work.

**B. Survey Requirements:** The Construction Manager shall secure a professional engineer or surveyor licensed in the State of Delaware to perform the following:

1. Verify grades, lines, levels, locations and dimensions as indicated. Report any errors or inconsistencies in the above, before commencing work.

2. Exercise care in laying out work to keep within lot and property lines. Be responsible for encroachments on rights or property of public or surrounding property owners.

3. Locate and layout building or facilities according to the drawings with respect to their location on property and elevation in relation to grade.

4. Provide and maintain well-built batter boards at corners (if applicable). Establish and safeguard benchmarks in at least two (2) widely separated places. As work progresses, establish benchmarks at each level. Give exact levels of various floors.

5. Maintain complete, accurate log of control and survey work as it progresses.

**C. Construction Layout:**

The Sitework Trade Contractor shall be responsible to perform the layout and elevations required to complete his work.

Each Trade Contractor shall layout the remainder of his own work and be responsible for all lines, levels, grades, elevations, and measurements.

1.03 **TESTS**

**A.** The Construction Manager has employed and will pay for the services of a testing agency to perform the following tests and inspection (field):

- Soil compaction
- Concrete
- Steel
- Masonry
B. Tests, other than those required by the Specifications to be performed by Construction Manager required by any law, ordinance, rule, regulation or order of any public authority having jurisdiction, shall be made at such time and in such manner as the public authority may require. Each Trade Contractor responsible for that Specification Section shall be solely responsible for such tests.

C. Special tests may be ordered by the Architect in accordance with the General Conditions. Where specifications require testing by an independent testing laboratory, the Construction Manager shall be responsible for selection of the testing laboratory. The Construction Manager shall be responsible for the scheduling of all tests. Test reports should be given to the Construction Manager with copies for the Owner and Architect/Engineer.

D. All costs of testing required by the Contract Documents shall be borne by the Trade Contractor except costs of special tests which shall be paid for as stipulated in the General Conditions or Specifications.

1.04 TRADE CONTRACTOR'S OBLIGATIONS

A. The Trade Contractor must assume all risks and bear any loss occasioned by neglect or accident during the progress of the work until same shall have been completed and accepted by the Owner. The Trade Contractor agrees to indemnify, defend and save harmless the Owner, Architect, and Construction Manager from all suits and losses or injury to persons or property received or sustained from the Trade Contractor or his agents in the performance of the work under the progress of construction and make good all damage that may consequence the work herein specified. He must also assume all blame or loss by reason of neglect or violation of local or state laws, ordinances and regulations, encroachments upon neighbors, or from any other cause.

B. The work, in every respect, shall be under the care of the Trade Contractor and at his risk. He shall properly safeguard against any or all injury or damage to the public, to any property, materials, or things, except where stipulated otherwise in the Specifications, and also be responsible for any such damage or injury from his undertaking of this work to any person or persons or thing connected therewith. He shall indemnify and save harmless the Owner, Architect, and Construction Manager from all claims, suits, damages, actions of law, in equity or otherwise (including the costs of defense thereof which shall be assumed by the Trade Contractor) or any kind whatsoever in connection with this work and agreement and shall, if required, show evidence of settlement of any such action before final payment is made hereunder by the Owner.

1.05 ALLOCATION OF WORK

A. Sleeves, Hangers, and Inserts:

1. Each Trade Contractor shall furnish sleeves and inserts required to accommodate his work, together with instructions regarding their placement and location in the structure. Sleeves and inserts shall be furnished promptly in accordance with the established construction schedule so that they may be built-in as construction progresses.
2. Trade Contractors to furnish all embeds, sleeves, inserts, etc., that are to be cast in concrete or built in masonry to the appropriate Trade Contractor for installation.

3. Each Trade Contractor shall furnish and install all hangers required to accommodate his work.

B. Chases and Recesses:

Each Trade Contractor shall provide all blockouts in his work shown on the Contract Documents and having either or both dimensions greater than 10". Any openings with dimensions smaller than 10" or not shown and required by Trade Contractor shall be the responsibility of the Trade Contractor to make provisions for. Each Trade Contractor shall provide chases and recesses as shown on the Contract Documents required to accommodate the work or the other Trade Contractors. It is the responsibility of the Trade Contractors requiring openings, chases, etc., of a Trade Contractor, to furnish information regarding the size and location promptly in accordance with the established construction schedule, so that they may be built-in as construction progresses and avoid delays. Failure to provide the information promptly will result in the responsible Trade Contractor incurring any costs associated with the delay.

Trade Contractors shall cooperate fully with each other in the performance of above work, as cutting and patching of new work is neither contemplated nor will it be tolerated.

C. Sealing of Penetrations:

Each Trade Contractor shall be responsible to seal his own penetrations in walls, floors, and ceilings, using fire resistant materials, as required, to achieve fire ratings as indicated.

D. Equipment Foundations:

The Concrete Contractor shall provide all foundations and housekeeping pads for equipment furnished under his contract and all interior/exterior foundations and housekeeping pads indicated on the Contract Documents (Architectural, Civil, Structural, Mechanical, Plumbing, and Electrical) for equipment provided by other Trade Contractors. All other foundations, equipment, and housekeeping pads not shown, but required, shall be by the Trade Contractor requiring the same.

Each Trade Contractor shall furnish anchor bolts and other accessories required to anchor his equipment in place, together with instructions regarding their placement and location in the foundation. Anchor bolts and other accessories shall be furnished promptly in accordance with the established construction schedule so that they may be built-in as construction progresses.
E. Roofing Penetrations:

All roofing work shall be performed by the Roofing Trade Contractor, including patching penetrations made by the Electrical, Plumbing, and HVAC Trade Contractors. Cutting of roof openings, structural reinforcement, roof curbs, and counterflashing, shall be provided and installed by each Trade Contractor whose work penetrates the roofing surface, including all additional blocking.

1.06 CORING, CUTTING AND PATCHING

A. Responsibility: A Trade Contractor requiring the cutting of openings in new work, or in the existing work installed by others shall have such openings cut and patched by the trade which installed the original work, and such cutting and patching shall be at the expense of the Trade Contractor requiring the opening.

B. Approval: Approval to do such cutting and patching shall be received from the Architect through the Construction Manager prior to proceeding with the work.

C. Inspection:

1. Inspect existing conditions, including elements subject to damage or movement during cutting and patching.

2. After uncovering, inspect conditions affecting performance of work.

D. Preparation:

Provide supports to assure structural integrity of surroundings, devices, and methods, to protect other portions of Project from damage.

Provide protection from elements for areas which may be exposed by uncovering work; maintain excavations free of water.

E. Performance:

Execute work by methods to avoid damage to other work and which provide proper surfaces to receive patching and finishing.

Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements and sight-exposed surfaces.

Restore work with new products in accordance with requirements to Contract Documents.

Fit work tightly to pipes, sleeves, ducts, conduit and other penetrations through surfaces.

At penetrations of fire-rated wall, ceiling or floor construction, completely seal voids with fire-resistant materials as required to achieve fire-rating indicated.
Where fire protection materials are damaged or removed, reapply fire protection materials to achieve a rating equivalent to existing construction or as noted.

Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

F. Access Doors and Panels

Access doors and panels, SHOWN ON ANY DRAWING, shall be furnished and installed by the Drywall Contractor.

Access doors and panels, NOT SHOWN ON DRAWINGS, but required by the Specifications to access concealed valves, dampers, traps, devices, etc., shall be furnished by the Trade Contractor requiring the same for installation by the Drywall Contractor.

G. Final Cleaning

Final cleaning shall be performed by Construction Manager. Daily cleaning will be by the Trade Contractor(s) and their subcontractor(s).

END OF SECTION
PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
   1. Construction Schedule.
   2. Submittals Schedule.
   3. Daily construction reports.
   4. Field condition reports.

1.2 SUBMITTALS

A. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format:
   1. Scheduled date for first submittal.
   2. Specification Section number and title.
   3. Submittal category (action or informational).
   4. Name of subcontractor.
   5. Description of the Work covered.
   6. Scheduled date for Architect's final release or approval.

B. Contractor's Construction Schedule: Submit two opaque copies of initial schedule, large enough to show entire schedule for entire construction period and a copy of the digital file on CD.

C. Daily Construction Reports: Submit two copies at weekly monthly intervals.

D. Field Condition Reports: Submit two copies at time of discovery of differing conditions.

1.3 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
   1. Secure time commitments for performing critical elements of the Work from parties involved.
   2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.
PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals to Construction Manager, arranged in chronological order by dates required by construction schedule. Include time required for review, re-submittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
   1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
   2. Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for commencement of the Work to date of Substantial Completion.
   1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
   1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
   2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
   3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
   4. Startup and Testing Time: Include not less than 10 days for startup and testing.
   5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.

C. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion

D. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 30 days of date established for commencement of the Work unless otherwise indicated. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.
B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
   1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.4 REPORTS

A. Daily Construction Reports: Prepare and issue a daily construction report recording the following information concerning events at Project site to the Construction Manager:
   1. List of subcontractors at Project site.
   2. Equipment at Project site.
   3. Material deliveries.
   4. High and low temperatures and general weather conditions.
   5. Accidents.
   7. Meter readings and similar recordings.
   8. Orders and requests of authorities having jurisdiction.
   9. Services connected and disconnected.
   10. Equipment or system tests and startups.

B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit to Construction Manager a detailed report. Submit with a request for interpretation on CSI Form 13.2A or comparable form approved by Architect. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule to Construction Manager one week before each regularly scheduled progress meeting.
   1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
   2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
   3. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Construction Manager, Architect and Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
   1. Post copies in Project meeting rooms and temporary field offices.
   2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION
PART 1 - GENERAL

1.1 Construction Schedule
1. The following Claymont Elementary School Schedule is applicable to all bidders. The durations in the schedule are based on 5 day work weeks.
2. Milestone dates for school calendar:
   a. January 2, 2019 – School is Closed.
   b. January 3, 2019 – Professional Development Day. (Offices Open)
   c. January 21, 2019 – School is Closed.
   d. February 1, 2019 – Professional Development Day. (Offices Open)
   e. April 5, 2019 – Professional Development Day. (Offices Open)
   f. April 19, 2019 – Schools is Closed (Offices Open)
   g. April 19, 2019 – Schools is Closed
   h. April 22, 2019 – April 26, 2019: Spring break. (Offices Open)
   i. May 27, 2019 - Schools is Closed
   j. June 14, 2019: Last student day of school
   k. 2019/2020 and 2020/2021 School calendars are not available, expect the following:
      a. September – (1) Closed school day and (4) Students off/Offices Open days
      b. October – (3) Students off/Offices Open days
      c. November - (3) Closed school days and (4) Students off/Offices Open days
      d. December – Winter break (5) Closed school day
      e. January - (2) Closed school days and (1) Students off/Offices Open days
      f. February - (1) Students off/Offices Open days
      g. March -
      h. April - (1) Closed school day and (7) Students off/Offices Open days
      i. May - (1) Closed school day and (1) Students off/Offices Open days
      j. June – Mid month, last day for students,
      k. July and August (4) Closed school days

3. If school is listed as “Closed” on the Brandywine School District calendar, no work is to take place onsite, if offices are listed as “Open” on the Brandywine School District calendar, the jobsite will be open. Schedule, cost, delivery and manpower impacts should be included in bid.
4. All work is scheduled to be completed year round based on phasing schedule provided.
5. The Construction Schedule as approved by the Construction Manager and Owner will be an integral part of the Contract and will establish interim work completion dates for the various activities.
6. The Construction Schedule may vary in accordance with construction conditions. Each Trade Contractor shall delay or expedite material and equipment deliveries, and modify the required labor forces to accommodate these varying conditions.
7. Work is to commence upon receipt of the Letter of Authorization to proceed.
8. Within fifteen (15) days after receipt of a “Letter of Authorization to proceed”, each trade Contractor shall submit a detailed preliminary Construction Schedule to the Construction Manager. The schedule will include breakdowns of total man days of field labor into major
categories of work, time estimates of various categories of work, and the crew size for each
category.

9. Each Trade Contractor shall organize his Construction Schedule per Phase, Building, Area,
and/or Floor as required by the Construction Manager.

10. The Construction Manager shall schedule a meeting with the Trade Contractor to receive the
contents of each Trade Contractor’s preliminary Construction Schedule, coordinate the
sequence of work, and make all revisions required. The Construction Manager shall have the
final authority concerning the sequence of work and durations of each activity. Each Trade
Contractor shall revise his schedule in accordance with that meeting and submit his schedule
to the Construction Manager for approval. The Construction Manager will then develop the
Project Construction Schedule. Each Trade Contractor shall schedule and perform his work
in accordance with the Construction Manager’s Project Construction Schedule.

11. The Schedule shall be the basis for the dates to start and complete work for various portions
of each contract, and to complete work (including changes) for the Project. It shall be the
duty of the Trade Contractor to conform to the approved Schedule and to arrange his work in
such a manner that it will be installed in accordance with the Schedule.

12. Each Trade Contractor shall submit two (2) copies of an updated Construction Schedule
comparing the original schedule to actual work in progress and projected work along with the
preliminary application for payment.

13. A representative of each Trade Contractor shall meet with the Construction Manager and
furnish to him information necessary for such re-evaluating and updating and, if applicable,
information with regard to changes in the work and the Trade Contractor’s proposed effort to
overcome any delays incurred.

14. Should any work not be started or completed within five (5) days of the stated scheduled date,
the Construction Manager shall have the right to order the Trade Contractor to expedite start
and completion of the work by whatever means the Construction Manager deems appropriate
and necessary, without additional compensation to the Trade Contractor.

15. Should any work fall to ten (10) or more days behind schedule, the Construction Manager
shall have the right to perform the work or have the work performed by whatever method the
Construction Manager deem appropriate.

16. Costs incurred by the Construction Manager in connection with “maintaining the
Construction Schedule” under this section shall be reimbursed to the Construction Manager
by the Trade Contractor.

17. It is expressly understood and agreed that failure by the Construction Manager to exercise the
option to either order the Trade Contractor to expedite work, or to expedite the work by other
means, shall not be considered precedent-setting for any other activities.

18. The following Construction Schedule is critical to the successful completion of the Project
and is an integral portion of the Construction Documents. The Construction Schedule may
vary in accordance with the construction conditions. The Trade Contractor shall delay or
expedite his material and equipment deliveries and modify the required work forces to
accommodate these varying conditions. The attached schedule is a milestone schedule with
durations that portions of the project must be completed in. A more detailed construction
schedule will be generated after all contracts have been awarded. By submitting a bid, each
Trade Contractor is acknowledging that they can complete this work within the durations
outlined in the milestone schedule.

19. The schedule is of the essence on this project and each contractor is responsible for
completion of its work in coordination with the work of all other contractors within the
required sequence and time frame so that the established schedule is met. Each contractor
agrees to provide sufficient labor crew size, equipment and/or work overtime, weekends, or
shiftwork as necessary to meet the activity durations on this schedule.
20. The attached schedule includes “estimated” start dates for the construction activities. In the interest of the overall project, W-T reserves the right to alter the sequencing of activities in order to accommodate project conditions and/or Owner requirements. It is understood that the contractor shall be obligated to complete its activities within the specified duration regardless of the actual start date.

21. All submittals and shop drawings must be submitted within a minimum of two (2) weeks of the notice to proceed with this subcontract, or the dates indicated on the schedule or scope of work, whichever occurs first. All expediting of materials and equipment to meet this schedule is the responsibility of the contractor. Contractor to pay for any quick ship charges if necessary.

22. All work, or applicable portions of the work, shall be sufficiently complete for Owner’s use and occupancy and all required approvals and permits for use and occupancy shall have been issued by the appropriate authorities by the established “Date of Substantial Completion” of the work, or applicable portion thereof.

23. All punchlist work and project closeout documentation shall be completed and approved by the Owner and Architect by the “Date of Final Completion”: which shall be no later than 21 days after the Date of Substantial Completion. Any uncompleted punchlist items after this date will be completed by Whiting-Turner and backcharged to the appropriate contractor or vendor. Final invoices will not be processed until final completion of the work and certification of same by the Owner and Architect.

24. If a contractor misses any portion of a workday due to weather, manpower, or scheduling conflicts, they must make-up this lost time on Saturday of the same week. If two or more days are lost in the same work week, the contractor shall work the immediate Saturday and the Saturday(s) of the following week(s) to make up those lost days.

25. Sundays are not regular work days. Approval must be obtained from Whiting-Turner prior to working. It is expected that contractors will work Saturdays, Sundays, and overtime when days are lost during the week.

26. Failure to properly man the project during normal week days may result in charges for CM supervision on weekends, at the discretion of the CM.

27. The contractor must schedule their work forces to work on all available work at a given time. Therefore, if an area of the building is ready for the contractor’s work to begin or continue, the contractor must have manpower onsite working. Contractors will not have the “entire” work area at one time.

28. Each contractor must request information or clarifications in a timely manner, at least two weeks prior to needing the information, so that the time required to receive the clarification does not impact the work. No delays will be accepted related to this issue.

29. Each contractor is required to include in their bid the necessary overtime costs if they are needed to meet the schedule durations in this section.

2.1 Time of Completion

1. The Trade Contractor shall commence work upon receipt of a Letter of Authorization to proceed from either Brandywine School District or The Whiting-Turner Contracting Company.

2. All work shall be 100 percent (100%) complete and sequenced per the attached schedule unless agreed upon by the Construction Manager prior to the executing of the contract.

3. Work can be completed on Saturdays and Sundays and at extended hours during the week. The Owner shall not be responsible for additional costs for overtime.

4. Normal work hours shall be from 7:00 a.m. to 3:30 p.m., Monday to Friday, and 7:00 a.m. to 3:30 pm on Saturday, when applicable. Work may be completed beyond these hours, as approved by the Construction Manager.
5. **Weather Delays:** The project substantial completion date, shall only be adjusted due to weather conditions if there are delays above and beyond the following “Adverse Day” allowances based on a seven day work week:
   A. January (12), February (10), March (5), April (5), May (4), June (2), July (4), August (3 days), September (4 days), October (3 days), November (2 days), and December (6 days). These “Adverse Days” are based on the following reference: State of Delaware Department of Transportation’s Standard: “763508 Project Control System.”
   B. Delays requested due to weather must be related to the critical path activity as indicated on the Contractor’s Project Schedule.
   C. Delays due to weather must be reported by the contractor on the day they occur in a written report.
   D. Any day lost during the week must be made up the same week by overtime and/or weekend work. If the weather is bad on the make-up day, the lost day must be made up the following week.
   E. The allowance days listed above carry over to the next month if they are not used. Therefore, if only 1 allowance day is used in November, there are (7) days in December. Therefore, there is a total of 60 allowance days in a year.

3.1 See attached “Preliminary Bid Schedule.”
### PHASE 1: Winter/Spring 2019 - Art, Music, Kitchen

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### PHASE 1K - Kitchen

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**PHASE 2 - Summer 2019 - Office, Cafeteria**

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**PHASE 3 - Summer Fall 2019 - Area E East**

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Claymont ES - Bid Pac B
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**PHASE 5 - Summer 2020 - Auditorium & Lobby**

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Whiting-Turner
Claymont ES - Bid Pac B
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Finish date: 21 DEC 20
Data date: 11 DEC 18
Run date: 27 MAR 19
Page number: 6A

Whiting-Turner
Claymont ES - Bid Pac B
A. PHASING DIAGRAMS ARE FOR REFERENCE ONLY, COORDINATE WITH CM.
B. SITE WORK IS PART OF BPA (UON).
C. AREA H (BASEMENT) IS PART OF BPA (UON).
D. GAS LINE FOR NEW GENERATOR PART OF BPA PART 1 SCOPE OF WORK.

LEGEND:

- BPA - PART 1
- BPA - PART 2 (NOT IN CONTRACT)
- BPA - PHASE 1
- BPA - PHASE 2
- BPA - PHASE 3
- BPA - PHASE 4
- BPA - PHASE 5
- BPA - PHASE 6

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PRELIMINARY
NOT FOR CONSTRUCTION

CLAYMONT ELEMENTARY SCHOOL RENOVATION
3401 GREEN STREET
CLAYMONT, DE 19703

BRANDYWINE SCHOOL DISTRICT
1311 BRANDYWINE BOULEVARD
WILMINGTON, DE 19809

CONSTRUCTION PHASING PLAN - SITE WORK

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1621 N. Lincoln Street
Wilmington, DE 19806
(P) 302.658.6426
(F) 302.658.8431
abha@abha.com
www.abha.com
## Preliminary Bid Schedule

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**Whiting-Turner**  
Claymont Elementary School
SECTION 01 35 00
SPECIAL PROJECT PROCEDURES

1.0 PROCEDURES

1.1 CONSTRUCTION MANAGER

A. The Construction Manager shall control, enforce, direct, instruct, and otherwise implement regulations and restrictions as set forth in this section.

1.2 OWNER'S REPRESENTATIVE

A. All communications with the owner and owner’s representative(s) and consultant(s) shall be thru the Construction Manager unless otherwise noted in the General Conditions.

1.3 NOISE CONTROL

A. The Contractor shall execute the Work in this Contract as quietly as practicable to avoid unnecessary disturbances.

B. Any complaints duly registered by the Construction Manager of unacceptable noise levels shall be cause for the use of special precautions and methods of operation by the Contractor to reduce noise to acceptable levels.

C. The Owner and Construction Manager shall be the sole judge of the tolerability of noise levels.

D. Use of portable radios or tape recorders will not be allowed on the premises other than two-way communication radios.

E. The Contractor shall prepare a "Noise Schedule" as soon as practicable indicated the type of noise inducing work showing the dates, times and duration of such work. The Contractor should note any special instruction and/or time requirement in Scopes of Work.

1.4 PERSONNEL IDENTIFICATION

A. All employees of the Contractor and all subcontractors may be required to wear numbered identification badges while on the premises of existing buildings.

B. The identification badges shall be conspicuously fixed to outer garments above elbow level.

C. Any of the Contractor's personnel or subcontractor's personnel who do not comply with this requirement at all times will be denied access to the facility or will be escorted off the premises by Security Guards or owner representative(s).

1.5 PERSONNEL PARKING

A. At no time shall the employees of the Contractor or subcontractor employed by Contractor be allowed to park their vehicles on-site without prior approval from the Construction Manager.
2.0 LIMIT OF OPERATIONS

A. It shall be noted that, adjacent streets will remain open throughout the duration of this Project. The Construction Manager will provide a perimeter fence, which will establish limits of operation.

B. The Contractor's normal limit of operations shall be confined within the Limits of Work Area as designated on the drawings.

C. The Owner, Architect, and other Contractors performing Work within these limits of operation, shall be allowed access at all times.

D. Construction operations must be planned and executed in a manner which allows emergency access to project.

3.0 SCHEDULING AND COORDINATION

3.1 SCHEDULING

A. All arrangements for work which will involve interference with normal Owner or adjacent properties functions, particularly in occupied areas, or adjacent thereto, shall be scheduled a minimum of 14 days in advance with the Construction Manager to provide for minimum of disruption and inconvenience.

3.2 OUTAGES

A. Utility and service outages shall be kept to a minimum, and will be permitted only with written approval of the Construction Manager and the Owner.

B. All requests for the outages shall be made a minimum of fourteen working days in advance of their need.

C. Requests for outages will not be considered unless they include an identification of all areas which will be affected by the proposed outage. Blank outage forms will be provided by the Construction Manager upon request.

D. All outages shall occur after normal working hours. All costs including premium time shall be included in the Bid amounts.

END OF SECTION
SECTION 01 35 20
SAFETY REQUIREMENTS AND LOSS CONTROL

The major goal of the Loss Control Program is to prevent losses. Prevention of accidents and elimination of hazards will, in turn, prevent pain, suffering and direct loss in terms of dollars. A safe work place must be maintained for all employees and visitors. High quality work standards and on-time performance are facilitated by an effective Loss Control Program.

Controlling conditions which result in losses is the responsibility of all parties. The Construction Manager will designate a job site safety officer responsible for program management. The responsibility for program implementation is the responsibility of all employees of the Owner, Construction Manager, Contractors and all Subcontractors. The following summary identifies objectives requiring a firm commitment to insure a continuing and comprehensive Loss Control Program.

Construction Manager Duties:

1. Designate jobsite safety officer.
2. Loss reporting and summaries.
3. Accident investigation.
4. Establish project procedures.
5. Inspections, notifications and follow-up.
6. Weekly "Tool Box" talks.
7. Weekly Superintendents meetings.

Contractors Duties:

1. Designate on-site safety representative.
2. Consult with insurance carrier for construction operations.
3. Involve foreman and employees.
4. Safety training of all employees.
5. Adherence to safety standards, rules and government regulations.
6. Report conditions or practices which might cause injury or damage.
8. Participate in all accident investigations.
9. All employees attend weekly Tool Box talks.
10. Attend weekly Superintendents/Foreman's Meetings.
11. Request permission to move barricades and floor opening protection. *
12. Maintain fire watch for all burning operations *
13. Properly store and protect hazardous chemicals and flammable substances.
14. Insure performance of these duties by subcontractors.
15. Maintain good housekeeping practices.
16. Prohibit the use of drugs and/or intoxicating beverages.
17. Maintain equipment in safe condition.

* See the Whiting-Turner Forms for these issues in the On-Site Safety Orientation Package

In order for our accident prevention program to be effective, management at all levels must personally take a serious interest in the prevention of accidents. They must also provide the leadership to which supervisory personnel and employees will respond by developing a positive safety attitude.
THE WHITING-TURNER CONTRACTING COMPANY
SAFETY/HARASSMENT POLICY

I. SAFETY REQUIREMENTS

The Contractor agrees to fully comply with all applicable standards of the Occupational Safety and Health Administration, all safety codes, laws or ordinances applicable to any public authority and to ensure that its employees and Sub-Contractors abide by the same regulations. The Contractor further agrees that if so ordered by the Whiting-Turner Project Manager or Superintendent, it will immediately stop work and correct any serious safety violations immediately before resuming work. The Contractor expressly agrees and understands that Contractor shall be solely responsible for the safety conditions of its work areas and working forces.

The Contractor further agrees to comply with the following specific safety rules of Whiting-Turner which shall in no way limit the Contractor’s liability for safety.

SECTION 01 35 20
CONTINUATION SHEET FOR - The Whiting-Turner Contracting Company
Contractor/Subcontractor EH&S Manual Synopsis (8 Pages)
The Whiting-Turner Contracting Company
Contractor/Subcontractor EH&S Manual Synopsis

DISCLAIMER: For Contractor/Subcontractor’s convenience only, the following is a Synopsis of some of the more significant provisions of The Whiting-Turner Contracting Company’s Contractor/Subcontractor EH&S Manual (“Manual”) requirements. This Synopsis is not intended to, nor shall it alleviate Contractor/Subcontractor’s obligations to comply with all of the requirements of the Manual as applicable to contractor/subcontractor’s scope of work, whether or not they are included in the Synopsis.

The information in the Manual and this Synopsis are not intended to serve as a substitute for the exercise of good engineering judgment by the engineers nor as a substitute for determinations made by contractors/subcontractors of appropriate manner and methods of operations and safety aspects of work under their control. The Manual and this Synopsis are also not intended to be all inclusive or replace a contractor’s or subcontractor’s corporate or site-specific safety program and is not intended to, nor shall they, supersede any more stringent federal, state, local and other applicable laws, codes, rules, regulations, and/or practices. All contractor’s and subcontractor’s site-specific safety programs must meet or exceed the requirements of the Whiting-Turner EH&S program, the contract documents and all federal, state, local and other applicable laws, codes, rules, regulations, and/or practices. In the event of any conflicts between the material contained therein and any more stringent laws, codes, rules, regulations, and/or practices, the more stringent laws, codes, rules, regulations, and/or practices shall govern.

The Contractor/ Subcontractor EH&S Manual, this Synopsis, and all information contained therein is confidential and intended for the sole use of contractors and subcontractors on Whiting-Turner projects. Contractors/subcontractors are prohibited from distributing this information to any third parties. The Whiting-Turner Contracting Company expressly disclaims warranties for the information contained in the Manual and this Synopsis and makes no representations to third parties regarding the reliability, suitability, correctness, or completeness of such information. Whiting-Turner assumes no responsibility or liability and shall not be responsible and/or liable for damages or losses of any kind, including but not limited to direct, indirect, incidental, exemplary, special or consequential damages or losses, arising from, attributable to and/or resulting from the use of such information by third parties however caused and on any theory of liability, whether in contract, strict liability or tort

Pre-Construction Submittals
1. Contractor/subcontractor must identify and submit the qualifications of a safety representative/competent person to Whiting-Turner as the primary, on-site contact for safety related issues.
   - The safety representative may be a supervisor and they shall have as a minimum, the OSHA 30-hour Outreach Training Program for Construction.
   - The subcontractor will provide a first aid/CPR/AED trained competent person when one or more of the subcontractor’s employees are working
2. Contractor/subcontractor must submit a completed prequalification form and respond in writing to Whiting-Turner’s requests for additional information/explanation.
3. A site-specific safety plan (SSSP) shall be developed for the project by each contractor/subcontractor. The plan should address hazards and mitigation strategies related to the scope of work for the project. Activity Hazard Analysis (AHA) for major phases of work, submitted with the company safety program may be accepted in lieu of SSSP – at the discretion of the Whiting-Turner project team.
4. Site-specific Safety Data Sheets (SDS) are required to be submitted prior to bringing any chemical product on site. A current chemical inventory is to be maintained with Whiting-Turner.
5. An Activity Hazard Analysis (AHA) shall be submitted ten days prior to the start of work.
6. A competent person’s acknowledgement form must be completed, and their qualifications submitted for activities where OSHA requires a competent person.

Safety Management
The Whiting-Turner Contracting Company  
Contractor/Subcontractor EH&S Manual Synopsis

1. All on site personnel, (contractor/subcontractors, tiered contractors/subcontractors, and their employees) are required to participate in a mandatory safety orientation session prior to commencing with any work on site. Contractor/subcontractor shall provide a translator for any non-English speaking employees during orientation and any job wide meetings/stand-downs. Employees may be asked to attend orientation again for repeat violations or deficiencies.

2. Each contractor/subcontractor is required to designate a site safety representative (SSR). SSR shall be on site at all times and shall have the knowledge and authority of the competent person. SSR shall be able to conduct site walks with Whiting-Turner personnel to ensure the safety of contractor’s/subcontractor’s workers on the project. Manpower totals below include all tiered contractor/subcontractor employees. Proof of training must be submitted prior to mobilization or at orientation. The qualifications for the SSR are as follows:
   • Minimum requirement proof of OSHA 30 hour submitted
   • Contractors/subcontractors with (30) or more workers on site will be evaluated by the Whiting-Turner’s management team along with Whiting-Turner’s EH&S Manager regarding the contractor’s/subcontractor’s site-specific safety performance. If the contractor’s/subcontractor’s past or current site safety performance indicates improved safe work practices and conditions are needed to help ensure the safety of the contractor/subcontractor crews and others, Whiting-Turner at its discretion, may require the contractor/subcontractor to provide a fulltime Site Safety Representative to be present onsite with no other collateral duties.

3. The contractor’s/subcontractor’s supervisor(s) and safety representative must make frequent and regular inspections of their work areas and activities.
   • Hazards identified that are under their control must be corrected immediately and all other identified hazards must be reported to the Whiting-Turner superintendent.
   • One documented inspection shall be conducted each week.

4. The contractor’s/subcontractor’s on-site supervisor and the contractor’s/subcontractor’s designated on-site safety representative must schedule and attend a pre-construction safety meeting with the Whiting-Turner Superintendent to discuss the contractor/subcontractor safety requirements.
   • The pre-construction safety meeting should take place at least five (5) working days before startup to allow for review of required documentation.

5. The subcontractor shall provide a translator whenever there are non-English speaking tradespersons on site.

6. Contractor/subcontractors, who in turn contract out parts of their work, have sole responsibility to see that their lower tier contractors comply with project safety requirements. Additionally, Whiting-Turner’s Project Manager and/or Whiting-Turner’s Superintendent shall be notified that the lower tier contractors are arriving at least five (5) days before work starts. The Contractor/subcontractors will be held directly accountable for all lower tier contractors. Contractors/subcontractors must provide a competent person onsite fulltime to oversee and direct lower tier contractors’ while actively performing work.

7. The subcontractor’s superintendent(s) and/or designated safety representative must attend the weekly coordination meeting where safety issues will be addressed.

8. Emergencies shall be handled through the Whiting-Turner Field Office according to the posted Emergency Action Plan.

9. All work-related injuries, regardless of severity, must be reported to Whiting-Turner immediately. An accident/incident investigation report must be completed by the appropriate subcontractor supervisor and submitted to Whiting-Turner within 24 hours of the incident. Further, all work-related injuries will be recorded on an injury log. A completed injury log will be submitted to Whiting-Turner by the 5th of the month for the previous month.
10. Incidents involving the public, regardless of severity, must be reported to Whiting-Turner immediately. An accident/incident investigation report must be completed by the appropriate subcontractor supervisor and submitted to Whiting-Turner within 24 hours of the incident.

11. Only communication radios are permitted on Whiting-Turner projects.

**General Safe Work Practices and Guidelines**

**The following are prohibited on Whiting-Turner Projects**

1. The use of the following administrative controls as a means of fall protection
   - Controlled Access Zone as a means of fall protection
   - Controlled Decking Zone as a means of fall protection
   - Safety Monitor System as a means of fall protection
2. The use of load handling equipment to hoist personnel—please see the Manual for exceptions and provisions
3. Working from the midrail or top rail of any lift
4. The use of cell phones for signaling of cranes and equipment
5. The use of open hooks during lifting operations/picks.
6. Fish tapes or lines made of metal or any other conductive material when potential for contact with energized circuits exists
7. The use of particle board, medium density fiber board (MDF) or similar material as floor hole covers
8. The use of open turnbuckles as part of the perimeter cable system
9. Other construction processes below steel erection are prohibited unless overhead protection for the employees below is provided
10. Harassment of any kind, to any person
11. Smoking or use of vaporized equipment (except in designated areas)
12. Radios, media players, headphones, or other listening devices
13. Guns or weapons of any kind
14. Use or possession of alcohol or drugs of any kind (except for prescription drugs)
15. Riding on equipment that is not equipped with proper seating and seat belt
16. Open fires, fire barrels, or hot boxes
17. The use of metal ladders

**Carbon Monoxide Exposure Prevention**

1. In enclosed or poorly ventilated spaces tools and equipment shall be powered by electricity, batteries, or compressed air.
2. All fuel driven equipment being used indoors or in partially enclosed spaces must have scrubbers where carbon monoxide exposure exists.
3. When using gasoline powered generators and compressors, place them outside away from air intakes to ensure that the exhaust is not being drawn back indoors.

**Concrete and Masonry**

1. Each contractor/subcontractor, with employees exposed to a fall 6’ or greater to a lower level must ensure that effective fall protection measures and rescue procedures are addressed in their company Activity Hazard Analysis prior to beginning work on site. This is to include the name and qualifications of the designated competent person.

**Confined Space Entry**

1. It is Whiting-Turner’s position that all confined spaces are permit required until proven otherwise [in writing] by the contractor/subcontractor’s competent person.
2. All confined spaces, regardless of classification, shall have continuous multi-gas/4-gas air monitoring while the space is occupied by tradespersons.

**Cranes and Derricks**
The Whiting-Turner Contracting Company
Contractor/Subcontractor EH&S Manual Synopsis

1. Personnel hoisting requirements - The use of load handling equipment to hoist personnel is prohibited unless the employer can demonstrate that other methods would be more hazardous and is able to comply with the personnel hoisting requirements that are established in the standard.

2. Hoisting personnel on Whiting-Turner projects shall be considered a critical lift or activity, and therefore shall meet all requirements of a critical lift before the lift may begin.

3. A crane checklist must be completed prior to each initial lift.

4. Post Assembly – a post assembly inspection is required for all Crawlers and TowerCranes by a person properly trained and qualified to inspect such equipment.

5. Boom-tip anemometer or equivalent device is required.

6. All loads to be lifted at Whiting-Turner project sites shall have a tag line attached.
   • The competent person shall determine the size, rope materials, and length of the tag line.
   • The line shall be attached in a way that maintains control of the load to reduce the risk of caught-in/between and struck-by hazards to employees and surroundings during any lift.

Critical Lifts
1. The Whiting-Turner Contracting Company identifies a critical or special lift as
   • any lift where the total weight of the load and the deductions for the equipment combined exceeds 75% of the capacity of the crane capacity chart at the specific boom length and radius of the load,
   • any lift where there will be more than one (1) crane or piece of load handling equipment attached to the load at a time;
   • any lift that involves the lifting of personnel;
   • any lift where the contents of the lift are considered hazardous to health or environment, and an accidental release could result harm to either;
   • any lift where encroachments precautions are required for power lines.

Demolition
1. Contractor/subcontractor shall verify that all local ordinances and permitting issues have been addressed as they relate to demolition.

2. Generic safety data sheets for demolished material must be provided by the creating contractor.

3. Task lighting—which meets or exceeds the requirements of the standard—shall be provided by the demolition contractor/subcontractor.

Electrical Hazards Prevention
1. Whiting-Turner requires that all projects are 100% GFCI compliant. An Assured Equipment Grounding Conductor Program may be used in addition to—but not in lieu of—the GFCI program.

2. The installing contractor, i.e. the electrical contractor/subcontractor, shall test each power receptacle for proper installation including polarity, grounding, etc. and forward that documentation to Whiting-Turner before the circuit is used.

3. The electrical contractor/subcontractor will conduct and document monthly tests after the initial installation.

4. Only round, heavy-duty (type S, SJO, SJTW, ST, SO, STD) extension cords are acceptable for use on a construction site; at least 12 gauge or larger.

5. Damaged cords may only be repaired by a qualified electrician in accordance with manufacturer’s requirements for such repairs.

6. Where possible, all extension cords will be suspended (8’) above the floor or working surface.

7. Extension cords shall not be fastened with staples, hung from nails, or suspended with non-insulated wire.

8. All temporary lighting circuits must originate from GFCI protected breakers.

9. Temporary wiring must be rated for all conditions it may be subjected to and be installed as per NEC, OSHA, NFPA and Authorities Having Jurisdiction requirements.

Energy Control
1. Lockout/tagout (LOTO) shall not be considered for use until all other avenues of attaining a “zero-energy state” have been exhausted.
2. All contractor/subcontractors working with electrical systems are required to have a written Lockout/tagout procedure. A competent person shall be responsible to control all aspects of the LOTO procedure. They will ensure coordination with the appropriate tradesmen.

3. If a system can be locked out through design or by other means, this will be the preferred method.

4. The lockout device shall be substantial enough to prevent removal.

5. The lock shall be a separately keyed lock for use only with the lockout system.

6. The lockout device must be tagged with the name of the employee and their company. There shall be one lock for each employee (including Whiting-Turner) exposed to the system.

7. If working in a multi-shift environment each employee shall remove their respective locks at the end of their shift. The creating contractor shall have a system in place to ensure that exposure is eliminated by controlling the potential hazardous energy by means of LOTO. If work on the system is to continue the next shift worker shall be present to install his own lock immediately following removal of the lock from the prior shift.

8. Employees shall not leave locks on past the end of their shift. The use of 100% LOTO must be maintained until the completion of the task. Verification by all competent persons in charge of the LOTO shall be completed prior to re-energizing the system.

9. In the event an employee is discovered tampering with or violating the LOTO procedure, the employee will be removed from the project indefinitely.

10. A log shall be maintained on site that identifies the following:
   • Date of usage
   • Number of locks and tags used
   • Contractors involved
   • Time of LOTO initiation
   • Time of LOTO removal
   • Designated competent persons
   • Location of LOTO Devices

11. Electrical or piping & instrumentation drawings or identifying specific locations of the LOTO devices shall accompany the LOTO log.

Excavations

1. Prior to the commencement of excavation activities where the excavation will be greater than 3 feet in depth, a pre-excavation checklist must be completed by the contractor/subcontractor’s competent person and submitted to Whiting-Turner upon request.

2. Underground utility installations must be identified and marked prior to beginning any excavation. To prevent unintentional contact, all necessary measures must be employed to locate underground utilities prior to excavating. Acceptable methods include but are not limited to the following: test pitting, ground penetrating radar (GPR), use of as-built drawings and any other obtainable information.

3. A competent person must be identified on Whiting-Turner’s competent person designation form and their qualifications submitted to Whiting-Turner prior to the start of work.

4. All excavations shall be protected by snow fence, at a minimum.

5. Persons walking or working adjacent to a trench with vertical/shear walls that is equal to or greater than six (6) feet in depth must be protected from fall hazards unless it has been determined by the competent person that it is infeasible or creates a greater hazard.

6. Persons crossing an excavation that is equal to or greater than six (6) feet in depth must be protected from fall hazards by means of a guardrail system.

Fall Protection and Prevention

1. Prior to creating a hole or opening in any elevated work surfaces, contractors/subcontractors must submit an elevated surface modification permit.

2. Particle board, medium density fiber board (MDF) or similar material is prohibited from being used as floor hole covers on Whiting-Turner projects All holes must remain properly covered, secured, and labeled / signed.

3. Each contractor/subcontractor, with employees exposed to a fall 6’ or greater to a lower level must ensure that effective fall protection measures and rescue procedures are addressed in their company Activity
The Whiting-Turner Contracting Company
Contractor/Subcontractor EH&S Manual Synopsis

Hazard Analysis prior to beginning work on site. This is to include the name and qualifications of the designated competent person.

4. A Personal Fall Arrest System (PFAS) [comprised of a full body harness, double lanyards, anchorage point and anchorage connector], a personal fall restraint system (PFRS) [comprised of a full body harness, lanyard, anchorage point and anchorage connector], a guardrail, or safety net system must be in place to protect all trade persons from exposure to falls working at or above 6 feet.

5. Employees working on ladders must be at least one and a half times the height of the ladder away from any perimeter, shaft, stairway, and opening where the fall distance exceeds 6’. If that distance isn’t feasible, a conventional fall protection method must be employed.

6. Stilts are only permitted in broom swept areas, where there is no change in elevation.

7. Every hatchway and chute floor opening shall be guarded by a hinged floor-opening cover. The opening shall be barricaded with railings to leave only one exposed side. The exposed side shall be provided either with a swinging gate or so offset that a person cannot walk into the opening.

8. An extension platform outside a wall opening onto which materials can be hoisted for handling shall have a standard railing that meets handrail standards. However, one side of an extension platform may have removable railings to facilitate handling materials; in this instance a personal fall restraint or arrest system shall be utilized to protect the exposed worker.

9. Perimeter cable shall not be less than 3/8” steel cable.

10. Corner uprights must be braced so that the required tension may be maintained.

11. The cable must be terminated with three U-bolt wire rope clips that maintain an efficiency rating of at least 80% of the wire rope’s breaking strength as proven through product documentation (e.g. Crosby clips).

12. Perimeter cable shall not be used as part of a personal fall arrest or fall restraint system unless designed to be used in that manner by a registered engineer.

13. The use of open turnbuckles as part of the perimeter cable system is prohibited.

14. All guardrail systems [with the exception of scaffold systems or where it can be proven to create a greater hazard] must be equipped with orange perimeter screening or mesh to prevent the ability to breach the system by climbing through rails. The installation of the screening must be compliant with Whiting-Turner’s orange perimeter screening guidelines.

15. A fall restraint system must be employed when working from articulating boom lifts.

16. A PFAS is not required when climbing up or down a ladder. Fall protection shall be considered by the competent person if employees work from a ladder 6’ or more above a lower level and are exposed to a fall.

17. Steel erectors and metal decking installers must utilize 100% fall protection devices at all times when working over 6’.

18. Horizontal lifelines must be designed by an engineer and installed under the supervision of a qualified person. A safety factor of two must be maintained.

19. Adequate fall protection devices must be provided, installed, and used at all loading platforms by the contractor/subcontractor wishing to remove existing perimeter protection prior to its removal.

20. All anchorage points utilized in a personal fall arrest system must be capable of supporting a load of no less than 5000 lbs.

21. Retraining documentation—to include instructor’s name and qualifications, training literature and sign-in sheet—must be submitted to Whiting-Turner on company letterhead.

Fire Prevention and Protection

1. A 20 lb. ABC dry chemical fire extinguisher or equivalent must be provided for each 3,000 square feet of protected building area. An extinguisher shall be placed at every stairwell on each level.

2. Residential-like wood framing construction shall have a 20 lb. ABC dry chemical fire extinguisher or equivalent for each 1,500 square feet of protected building area.

3. Storage of flammable/combustible liquids on or inside of buildings under construction shall be no more than one-day supply.

4. Provide a 20-pound ABC dry chemical type extinguisher between 25’-75’ from areas where flammable liquids are being handled.
The Whiting-Turner Contracting Company
Contractor/Subcontractor EH&S Manual Synopsis

Housekeeping
1. Clean-as-you-go practices are required.
2. Sort and organize material, sweep daily, and standardize activities to aid in the elimination of storage of excess/unused material in active work areas.
3. Work that may temporarily block emergency exits, safety showers, elevators, corridors, and hallways will require prior Whiting-Turner approval.
4. Materials stored in the vicinity of the area where work is performed should be limited to only those materials that will be used in the same shift.
5. Any material stored in a work area longer than 24 hours must be approved by Whiting-Turner.
6. Gang boxes, toolboxes, and sea containers/conex boxes shall not have materials stored on top of them.
7. All chemicals brought on site must be approved by Whiting-Turner.
8. The user of the chemical must provide Whiting-Turner an SDS prior to bringing the substance on site.
9. Chemical/gas cylinders (welding, purging, leak detection cylinders, etc.) must be secured.
10. All dedicated chemical storage areas must have safety data sheets (SDS) available at the storage location.

Mobile Elevated Work Platform
1. Employees must keep both feet on the floor of the basket; use of guardrails to gain additional height is prohibited on Whiting-Turner project sites.
2. Where aerial and scissor lifts are used on concrete slabs, any floor depressions or grade changes are required to be barricaded to restrict travel onto that area.
3. The area(s) below the basket or platform of aerial lifts shall be cordoned off using reinforced danger tape—or something of equivalent or greater tensile strength—and by using signage to identify the overhead hazard when a potential for falling objects exists.
4. Field modifications are not allowed on aerial lifts. Aerial lifts shall not be used to hoist, raise, or position material outside of the platform or basket unless manufactured to do so.

Personal Protective Equipment
1. Prescription eyeglasses and sunglasses that do not comply with ANSI Z87.1 are prohibited.
2. Aluminum hardhats, and bump caps are not permitted on Whiting-Turner projects.
3. For security and identification purposes, all hardhats shall display the contractor/subcontractor name and/or decal identifying the employer as well as the employee’s name.
4. Employees exposed to electrical voltages of 600 V or greater shall wear hardhats that meet the requirements of ANSI Z89.2 type Hardhats.
5. Hand protection is required when employee’s hands are exposed to hazards such as those from skin absorption of harmful substances, cuts or lacerations, abrasions, punctures, chemical burns, thermal burns, and harmful temperature extremes.
6. High visibility vests/gear are required by each person on site.
7. Long pants and shirts with at least a 4” sleeve is required. Shorts, cut offs, tank tops, and net shirts are not permitted.

Scaffolds
1. Contractor/subcontractor whose employees will need to access a scaffold system for work shall have a competent person present to inspect and sign off on the scaffold prior to the start of work each day.
2. Employees erecting or dismantling a scaffold are required to utilize appropriate fall protection at heights six (6) feet or above unless proven to be infeasible or more hazardous as determined by their company’s competent person.
3. All scaffolds, including carpenters’ bracket scaffolds, over six (6) feet in height shall have guardrails on all open sides. If guardrails cannot be used on a walking/working platform, contractor/subcontractors are required to use another means to protect employees from a fall.
4. Cross-braces are not considered to be an adequate guardrail (fall protection) system and shall not be used as a top or mid rail on Whiting-Turner projects.
5. Contractors shall utilize a scaffold tag system. The scaffold tag system shall be color coded and visible. The competent person shall inspect the scaffolding system before each work shift. The competent person shall sign and date the scaffold tag.
   • Green tags are reserved for complete systems.
The Whiting-Turner Contracting Company
Contractor/Subcontractor EH&S Manual Synopsis

- Red tags are reserved for erection/dismantling activities and for scaffolds with deficiencies in the system
- Yellow tags are reserved for systems that require the use of both PFAS and guardrail systems for incomplete scaffold systems or platforms.

Signs, Signals and Barricades
1. All caution and danger tape used on Whiting-Turner project sites shall be of the reinforced type and shall be supplemented with a tag/label affixed with the responsible party’s name, company, contact number, and potential hazard.
2. All flagmen shall be trained on appropriate procedures before controlling traffic, as required by the Manual on Uniform Traffic Control Devices (MUTCD) and any municipal or state guidelines.
3. All flagmen shall utilize sign paddles and shall be outfitted with high visibility garments, as required by current ANSI standards. All PPE and traffic control equipment shall be outfitted with reflectorized material for night work as required by current ANSI standards.

Stairways and Ladders
1. All aluminum and commercially manufactured wooden ladders shall not be used on Whiting-Turner projects.
2. Fall protection shall be considered by the competent person if employees work from a ladder 6’ or more above a lower level and are exposed to a fall.
3. Employees working on ladders must be at least one and a half times the height of the ladder away from any perimeter, shaft, stairway, and opening where the fall distance exceeds 6’ without employing additional means of fall protection.
4. Subcontractors shall provide ladders with duty ratings that meet the needs of their employees. Workers are required to select ladders that are capable of safely supporting their weight and the weight of their tools.

Steel Erection
1. Fall protection provided by the steel erector shall remain in the area where steel erection activity has been completed to be used by other trades; if / when Whiting-Turner accepts and takes custody of the system.
2. All tradespersons, including connectors, engaged in steel erection activities on a walking/working surface with an unprotected side or edge more than six (6) feet above a lower level shall be protected from fall hazards by a conventional fall protection method.
3. Roof penetrations are to be made only when equipment is ready to be installed.
4. Safety latches on hooks shall not be disengaged or made inoperable.

Welding and Cutting
1. A Hot Work Permit must be completed daily by each contractor/subcontractor performing all welding, burning/cutting operations.
2. Contractor/subcontractors are responsible for providing a fire watch and a charged, 20lb ABC dry chemical fire extinguisher for each welding and burning activity.
3. A fire watch is always required to remain in place during the hot work activity and for a minimum of one half (1/2) hour after the welding or burning operation has been completed.
4. Additional permits may be required by the local Fire Department and will be at the contractor/subcontractor’s expense.
5. All shields shall be compatible with a hardhat.
6. All cylinders shall be considered in storage at the end of each shift; cylinders must have gauges removed and caps in place.
MISCELLANEOUS RULES

A. Do not block any hallways, stairs or exit doors. Maintain fire egress.
B. Use all proper personal protection equipment (hard hats, gloves, glasses, etc.)
C. Smoking is prohibited on school grounds. Violators will be warned in writing one time. Written warning will be copied to their office. The second violation will result in removal from project. Designated smoking areas will be established outside of the building.
D. Eating in designated areas only
E. Use designated toilets only
F. Clean the work site daily, trash and debris to the dumpster daily
G. Alert WT to any emergency

NOTE: THESE ABOVE SAFETY RULES ARE IN ADDITION TO OSHA REQUIREMENTS.

II. CONTRACTOR’S SAFETY PROGRAM

The Contractor will provide a competent safety person who will be responsible for administering the Contractor’s safety program and enforcing the safety rules. The following are recommended suggestions for establishing an effective Contractor’s safety program.

A. Establish a schedule of safety meetings conducted by Contractor’s foreman for discussing specific topics, such as safety rules, hazards or specific jobs, safe practices, etc.
B. Establish a plan for Contractor’s foreman to contact each employee under his supervision at least once per week on safety.
C. Establish a procedure for the prompt investigation of all personal injuries and property damage by Contractor’s management.
D. Establish a schedule for periodic inspection by Contractor’s management of “hazards” on job site.
E. Establish a plan for the periodic inspection of tools and equipment by Contractor’s management.
F. Develop basic safety rules for job, instruct employees and enforced compliance.

III. INDEMNIFICATION (RELATED TO OSHA VIOLATIONS)

To the fullest extent permitted by law the Contractor shall indemnify and hold harmless Whiting-Turner, the Owner, and the Architect and their agents and employees from and against all claims, including citations and penalties imposed by the Occupational Safety and Health Administration, damages, losses, expenses and judgments including, but not limited to attorney’s fees, arising out of or resulting from performance of the work in an area which is unsafe, harmful, dangerous, or hazardous and which is caused in whole or in part by any act of omission of the Contractor, anyone directly or indirectly employed by it, or any one for whose acts it may be liable, regardless of whether the claim, citation, penalty, damage, loss, expense or judgment results from unsafe, harmful, dangerous, hazardous or toxic materials or substances or whether from any other unsafe, harmful, dangerous or hazardous conditions.

IV. SEXUAL HARASSMENT POLICY

The Construction Manager and Owner will not accept any behavior deemed to be a form of sexual harassment and actively seeks to eliminate such behavior from the jobsite environment.

Definition of Sexual Harassment
The Construction Manager and Owner officially defines sexual harassment as “any unwelcome sexual advances or requests for sexual favors and other verbal or physical conduct of a sexual nature that has the effect or purpose of unreasonably interfering with an individual’s work or academic environment, or of affecting an individual’s employment or academic status.” Sexual harassment is not only a clear violation, it is illegal and a form of discrimination, covered under Title VII of the Civil Rights Act of 1964.

Be Aware

Sexual harassment takes many forms, but includes any unwanted sexual attention such as:

- starring, leering, and ogling
- sexual teasing
- jokes and gestures
- repeatedly asking for dates after being refused
- lewd remarks
- whistles
- references to someone’s anatomy
- inappropriate touching
- attempts to kiss or fondle
- coerced sexual intercourse

The sexual harassment policy will be strictly enforced. Any reported incident will be dealt with swiftly and severely. The offending party, if identified will be dismissed from the project and property and not allowed to return. Repeated incidents by employees of a particular firm can result in cancellation of that contract. The victim of the abuse retains the legal right to prosecute. All employees of these contracting firms should be apprised of this policy before working on this project.

END OF SECTION
Table of Contents

1. Contractor/Subcontractor EH&S Requirements
   1.1) Blood-borne Pathogen Exposure Prevention Policy
   1.2) Carbon Monoxide Exposure Prevention Policy
   1.3) Concrete and Masonry Policy
   1.4) Confined Space Entry Policy
   1.5) Cranes & Derricks Policy
      1.5.1) Critical Lifts Policy
      1.5.2) Tower Cranes
   1.6) Demolition Policy
   1.7) Electrical Hazards Prevention Policy
   1.8) Energy Control Policy
   1.9) Excavations Policy
   1.10) Fall Protection and Prevention Policy
   1.11) Fire Protection and Prevention Policy
   1.12) Hand and Power Tools Policy
   1.13) Hearing Conservation
   1.14) Hexavalent Chromium Exposure Policy
   1.15) Housekeeping Policy
   1.16) Materials Handling and Rigging Policy
   1.17) Medical Services Staffing Policy
   1.18) Mobile Elevated Work Platforms
   1.20) Personal Protective Equipment Policy
   1.21) Respiratory Protection Policy
   1.22) Sanitation Policy
   1.23) Scaffolds Policy
   1.24) Signs, Signals and Barricades Policy
   1.25) Silica Exposure Prevention Policy
   1.26) Stairways and Ladders Policy
   1.27) Steel Erection Policy
1.28) Temporary Facilities
1.29) Underground Construction, Caissons, Cofferdams and Compressed Air Policy
1.30) Welding and Cutting Policy
2. Premobilization Safety Submittals and Ongoing Safety Management
3. Compliance Enforcement and Incentive Guidelines
DISCLAIMER: This manual is intended for the sole use of contractors and subcontractors on Whiting-Turner Projects. The Whiting-Turner Contracting Company expressly disclaims warranties for the information contained in this manual and makes no representations to third parties regarding the reliability, suitability, correctness, or completeness of such information. Whiting-Turner assumes no responsibility or liability and shall not be responsible and/or liable for damages or losses of any kind, including but not limited to direct, indirect, incidental, exemplary, special, or consequential damages or losses, arising from, attributable to and / or resulting from the use of such information by contractor/ subcontractor or third parties however caused and on any theory of liability, whether in contract, strict liability, or tort.

The information contained herein is not intended to serve as a substitute for the exercise of good engineering judgment by the engineers nor as a substitute for determinations made by contractor/ subcontractors of appropriate manners and methods of operations and safety aspects of work under their control. The information provided herein is not intended to nor shall it supersede any more stringent local, State or Federal practices, rules, regulations, codes, and/or laws. In the event of any conflicts between the material herein and any more stringent practices, rules, regulations, codes, and/or laws, the practices, rules, regulations, codes, and/or laws shall govern.

This manual and all information contained herein is confidential and exclusively for use on Whiting-Turner Projects. All contractors / subcontractors are prohibited from distributing the information herein to any other parties or using this information for any other purposes.

**Please note that this manual incorporates current Whiting-Turner requirements along with new best practices that have become available and generally accepted in the industry, including but not limited to those highlighted in orange font. This highlighting is for convenience only in assisting contractors/subcontractors in becoming familiar with some of these new requirements however all requirements in this manual must be given equal attention.**
1. Contractor/Subcontractor EH&S Requirements

Policy Statement

The following establishes Whiting-Turner’s minimal EH&S requirements for all contractor/subcontractors on a Whiting-Turner project. This manual is not meant to be all inclusive and it does not, in any way, excuse the contractor/subcontractor from adhering to the entirety of the Owner’s requirements and Whiting-Turner’s Contractor/Subcontractor EH&S Manual nor is it a substitute for the contractor/subcontractor’s own site-specific safety program. The contractor/subcontractor’s own site-specific safety program must meet or exceed the requirements of the Whiting-Turner Contractor/Subcontractor EH&S Manual, the Contract documents and the most current federal, state, local or other applicable codes and regulations.

General Requirements

1. Each contractor/subcontractor must identify and submit the qualifications of a safety representative/competent person to Whiting-Turner as the primary, on-site contact for safety related issues.
   a. The safety representative may be a supervisor and they shall have, at a minimum, the OSHA 30-hour Outreach Training Program for Construction.
   b. The contractor/subcontractor will provide a first aid/CPR trained competent person when one or more of the contractor/subcontractor’s employees are working

2. The contractor/subcontractor’s supervisor(s) and safety representative must make frequent and regular inspections of their work areas and activities.
   a. Hazards identified that are under their control must be corrected immediately and all other identified hazards must be reported to the Whiting-Turner Project Superintendent.
   b. One documented inspection shall be conducted each week.

3. The contractor/subcontractor’s on-site supervisor and the contractor/subcontractor’s designated on-site safety representative must schedule and attend a pre-construction safety meeting with the Whiting-Turner Superintendent and Site Safety Manager to discuss the contractor/subcontractor safety requirements.
   a. The pre-construction safety meeting should take place at least five (5) working days before startup to allow for review of required documentation.

4. The contractor/subcontractor shall provide a translator whenever there are non-English speaking workers on site.

5. Contractor/subcontractors, who in turn contract out parts of their work, have the total responsibility to see that their lower tier contractors comply with project safety requirements. Additionally, Whiting-Turner’s Project Manager and/or Whiting-Turner’s Superintendent shall be notified that the lower tier contractors are arriving at least five (5) days before work starts. The Contractor/subcontractors will be held directly accountable for all lower tier contractors.
6. The contractor/subcontractor’s superintendent(s) and/or designated safety representative must attend the weekly coordination meeting where safety issues will be addressed. Emergencies should be handled through the Whiting-Turner Field Office according to the posted Emergency Action Plan.

7. All work-related injuries, regardless of severity, must be reported to Whiting-Turner immediately. **An accident/incident investigation report must be completed by the appropriate contractor/subcontractor supervisor and submitted to Whiting-Turner within 24 hours of the incident.** Further, all work-related injuries will be recorded on the injury log. A completed injury log will be submitted to Whiting-Turner by the 5th of the month for the previous month.

8. **Incidents involving the general public, regardless of severity, must be reported to Whiting-Turner immediately. An accident/incident investigation report must be completed by the appropriate contractor/subcontractor supervisor and submitted to Whiting-Turner within 24 hours of the incident.**

9. Each contractor/subcontractor with chemicals on site shall have a spill kit on the project with the appropriate materials for adequate and prompt clean-up. In addition, their site-specific safety plan shall address spill prevention and containment measures.

10. Only communication radios are permitted on Whiting-Turner projects.

**Activity Hazard Analysis (AHA) and Pre-task Planning (PTP)**

**Activity Hazard Analysis.**

For each phase or major type of work/definable feature of work an AHA will be completed to identify the following:

- Health and safety considerations
- Description of steps to be performed
- Hazards associated with each step
- Required action to eliminate or control the hazard
- Focus four hazards and controls
- Contractor/subcontractor supervision sign-off

**The AHA is required to be submitted to Whiting-Turner ten (10) days prior to start of the task.** The contractor/subcontractor shall not be released to work until the AHA is accepted by the Whiting-Turner Superintendent or their designee.

Contractors/subcontractors involved in abatement, demolition, steel erection, confined space, and lockout/tagout operations must submit their site-specific safety plan for review by the Whiting-Turner Superintendent or Area EH&S Manager prior to the start of work.
**Pre-task Planning.**

This daily plan is designed to take place at the start of each work shift. Contractor/subcontractor supervisors are encouraged to meet with their crews to discuss the tasks to be accomplished and the steps that need to take place to work safely. All tradespersons should review and sign the relevant PTP for their assigned work. The main components of the Pre-task Plan will include the following:

- Evaluating the work area
- Potential hazard checklist
- Description of steps to be performed
- Hazards associated with each step
- Required actions to eliminate or control the hazard
- Crew sign-off

A copy of the PTP, if used, shall be kept near the work location.

The information the supervisors are relaying to the tradespersons is the same that was developed in the AHA however, the PTP will greater define the plan for that phase of work.

**Aerial and Scissor Lifts**

Fall protection is required in all aerial and scissor lifts on Whiting-Turner projects. Contractor/subcontractor employees shall follow the manufacturer’s recommendations for fall protection when working from a scissor lift. If manufacturer installed anchorage points are not available, the lift shall be replaced with a lift that is equipped with an attachment point. Never climb above the work platform. Working from the midrail or toprail of any lift is prohibited and is grounds for immediate removal. A dedicated spotter is required any time a scissor lift must be moved in an elevated state.

**Chemicals and Other Potentially Hazardous Materials**

A copy of the contractor/subcontractor’s site specific Chemical Inventory List and site specific SDS must be submitted to Whiting-Turner and updated as applicable. The chemical inventory list shall be reviewed on a monthly basis by a qualified person. A Project Hazcom Station [containing a hard copy all safety data sheets applicable to the site] will be established and maintained in the Whiting-Turner Project Office. The Whiting-Turner Hazcom Station does not eliminate the need or requirement for the Contractor/subcontractor to establish and maintain a Hazcom Program including training for its employees.

In the event unknown and/or potentially hazardous materials are encountered during construction, that portion of the work will stop, and Whiting-Turner will be notified immediately. Work will not resume until the Whiting-Turner Project Manager, Superintendent, EH&S Manager or third-party administrator authorizes it.

**Communication and Compliance**

Contractor/subcontractor management personnel is responsible for ensuring that all EH&S principles, policies and procedures are clearly communicated and understood by their respective employees. Managers and supervisors are expected to enforce the all requirements uniformly.
All persons working on a Whiting-Turner project is responsible for using safe work practices. In addition, it is expected that each person follows all procedural safeguards and assists in maintaining a safe work environment.

**Disciplinary Action**

When safety policies and procedural safeguards are violated or frequent involvement in accidents or infractions is revealed, disciplinary action must be considered. The intent of any disciplinary action taken is to convey the severity or potential severity of the infraction and bring about desired compliance and improvement.

When a person is observed committing an unsafe act, they must be informed by means of a written safety notice and he/she must attend the next scheduled jobsite safety orientation. In addition, employees observed committing unsafe acts while performing a task that exposes them to fall, electrical, caught-in/between or struck-by hazards must be retrained by their employer prior to attending the jobsite orientation and returning to work. At the discretion of Whiting-Turner management, depending on the severity of the violation by a contractor/subcontractor employee, the person may be suspended from the project for an allotted time or removed from the project permanently.

When a contractor/subcontractor implement their own company procedures for safety infractions committed by their employees on a Whiting-Turner job site, the contractor/subcontractor shall notify Whiting-Turner and provide a copy of the notice of infraction and related disciplinary actions to Whiting-Turner.

**Drug & Alcohol Testing**

All contractors/subcontractors are required to have an active and effective substance abuse policy in place which includes post incident and random drug screening practices that is in accordance with all applicable laws. All contractor/subcontractor employees are required to submit proof of drug screening—taken within six (6) months of their start date on each Whiting-Turner project—prior to completing Whiting-Turner’s project safety orientation. The proof can be in the form of a letter from the employee’s company on company letterhead verifying that they have met this requirement for a named employee.

**Employee Safety Training**

A site-specific new hire safety orientation shall be conducted prior to allowing any workers access to the field. All employees completing the orientation and providing proof of drug screening within six (6) months will be issued a numbered orientation sticker or badge to be displayed on their person.

- Additional OSHA Construction Standards that require specific training include, but are not limited to:
  - Fall Protection Training - 29 CFR 1926. 503
  - Personal Protective Equipment - 29 CFR 1926.95
  - Scaffold Training - 29 CFR 1926.450
Prior to workers coming on site, contractor/subcontractor must ensure workers are trained in the above standards and any other State, Federal, Local, or owner required training. These records shall be submitted with the company’s site-specific safety plan.

Prior to contractor/subcontractor mobilization, a Contractor/Subcontractor Training Questionnaire must be complete and submitted to the Whiting-Turner project team.

**Weekly Safety Meetings**
Project employees must attend at least one safety meeting each week. Copies of meeting minutes must be submitted to the Whiting-Turner project team with the Contractor/subcontractor Daily Progress Report for the day the meeting is held. Meeting minutes must indicate the name of the Contractor/subcontractor and date of the meeting. The supervisor(s) and the attendees must sign minutes.
1.1. Bloodborne Pathogen Exposure Prevention

Introduction

This baseline expectation applies to all contractor/subcontractor employees who could be reasonably anticipated, as a result of performing job duties, to come in contact with blood and other potentially infectious bodily fluids. Whiting-Turner employees trained and certified in first aid and cardio pulmonary resuscitation (CPR), who might be reasonably anticipated to come in contact with bodily fluids also must follow the guidelines set forth in this section.

Procedures

- When dealing with blood or other bodily fluids, Whiting-Turner and contractor/subcontractor employees are required to follow universal precautions. Accordingly, all human blood and other human body fluids are treated as if known to be contaminated with bloodborne infectious diseases.

- All project sites and offices are required to provide employees with disposable latex free gloves and one-way resuscitation masks for use in the event of an emergency.

- All certified first aid providers are required to wear disposable latex free gloves and eye protection while performing first aid on an injured individual. If rescue breathing or CPR is performed, a one-way resuscitation mask shall be provided for the protection of the injured and the provider.

- At least one Whiting-Turner project team member shall be trained in first aid and CPR; they shall also be trained in the decontamination of small blood spills. All individuals are encouraged to attend training in emergency first aid procedures. Whiting-Turner and each contractor/subcontractor shall have, at all times, a trained and certified FA/CPR representative.

- All blood spills shall be immediately contained and cleaned with an anti-viral solution, or by a solution of 5:1 water to bleach. In the event of a serious accident, the Whiting-Turner project team shall contract an outside biohazardous materials firm.

- Any material saturated with blood or other bodily fluid must be considered regulated waste. Discarded band-aids and gauze containing small amounts of blood products are not considered regulated waste. Disposal of all regulated waste shall be the responsibility of the outside biohazardous waste firm or emergency medical personnel.
1.2. Carbon Monoxide Exposure Prevention

Introduction

Carbon monoxide (CO) is a highly-toxic, flammable, non-irritating, tasteless, odorless gas that is slightly lighter than air. CO is one of the most common asphyxiants encountered in the construction industry. CO is produced in copious amounts by internal combustion engines such as automobiles, diesel powered compressors, and forklifts. Some of the common symptoms of carbon monoxide poisoning are shortness of breath, headache, dizziness, muscular weakness, and nausea.

Procedures

- The use of fuel powered engines and tools—which could potentially increase the likelihood of carbon monoxide exposures beyond the permissible exposure limit—are prohibited in poorly ventilated areas on Whiting-Turner projects.

- **In enclosed or poorly ventilated spaces tools and equipment shall be powered by electricity, batteries, or compressed air.**

- **All fuel driven equipment being used indoors or in partially enclosed spaces must have scrubbers where carbon monoxide exposure exists.**

- **When using fuel powered generators and compressors, place them outside away from air intakes to ensure that the exhaust is not being drawn back indoors.**

- **Where the potential for exposure beyond the permissible exposure limit is probable—using any device that discharges the products of combustion into a work area—the following testing requirements shall be followed:**
  - Monitor the work area continuously for the concentration of carbon monoxide.
  - Monitor several different points within the area at the working/breathing heights of employees.
  - Remove the employees from the area when the concentration of carbon monoxide reaches 35 PPM. Supplemental ventilation and reduction or elimination of the source shall be provided to reduce the concentration below 35 PPM before the employees are allowed to resume work in the area.
1.3. Concrete and Masonry

Introduction

Each contractor/subcontractor working on a Whiting-Turner project will comply with 29 CFR 1926, Construction Industry Regulations, Subpart Q – Concrete and Masonry Construction in addition to the following guidelines.

Procedures

General requirements.
- No load may be placed on a concrete structure unless a qualified person, knowledgeable in structural design, determines that the structure is capable of supporting the load.
- Protruding reinforced steel, onto or into which employees could fall, must be protected, and maintained by the creating contractor to eliminate the hazard of impalement.
- Contractors/subcontractors must submit a fall protection and rescue plan to Whiting-Turner, including the name and qualifications of the designated competent person.
- Eyewash stations and washing facilities must be provided per 29 CFR 1926.50(g) and 29 CFR 1926.51(f)(1), respectively.
- Ensure that proper concrete washout stations are provided and maintained to prevent runoff of liquids and to consolidate solids for disposal.

Equipment and tool requirements.
- Powered and rotating concrete troweling machines must have a “dead man” switch that automatically shuts off power whenever the hands of the operator are removed from the machine.
- Masonry saws must be provided with a semi-circular guard.
- Machines must be locked and tagged out of service before employees can perform any maintenance or repair work.

Cast-in-place concrete requirements.
- Formwork must be designed, fabricated, erected, supported, braced, and maintained so it can support all anticipated lateral and vertical loads.
- All shoring equipment must be inspected prior to erection to determine if it meets the requirements specified in the formwork drawings.
- Erected shoring equipment must be inspected immediately prior to, during, and after concrete placement.
- A qualified designer must prepare the design of the shoring and an engineer qualified in structural design must inspect the erected shoring prior to concrete placement. Written documentation must be provided to Whiting-Turner prior to the start of the pour.
- Forms and shores shall not be removed until the employer determines that the concrete has gained sufficient strength.
- Fall protection shall be maintained while employees are climbing rebar anytime they are exposed to falls six (6) feet or greater.
• Fall protection is required on all decks where gaps exist in the decking 10” or greater. At the building’s perimeter where the decking steps down to allow for a beam pour, the height of the rails shall be increased accordingly.
• Areas where form stripping is to be performed must be properly barricaded with tape or fence and signage must be posted on all sides. This should include areas below stripping.
• Protruding nails should be removed or bent immediately.
• Outrigger platforms used for material movement in and out of the building via a crane or forklift must be designed by an engineer and incorporate 100% fall protection systems.

Concrete forms, falsework, and vertical shoring.
• The concrete contractor/subcontractor shall install guardrails along all perimeter edges and interior floor openings.
  o The installation of the guardrail system must progress along the leading-edge formwork.
  o Proper guardrail heights shall be maintained during the formwork phase and again after the concrete has been placed; the proper top-rail height is between 39”-45” above the walking/working surface and the mid-rail is half that distance.
  o If at any time a worker breaches the height of a guardrail system, that worker shall be protected by a personal fall arrest system or a tiered guardrail system that provides adequate protection.
    1. If the distance from a person’s walking/working surface and the top-rail is less than 39 inches, that person has breached the fall protection system and another method of protection must be employed.
    2. Likewise, if the distance from a person’s walking/working surface and the top-rail exceeds 45 inches, that person is considered to have inadequate protection and another method of protection must be employed.

Masonry requirements.
• A limited access zone must be established prior to the start of any masonry work.
• The zone must be equal to the height of the wall, plus four feet.
• Employees that are working at heights greater than six (6) feet and are reaching more than 10 inches below the level of the walking / working surface on which they are working, must be protected from falling by personal fall arrest systems.
• For overhand bricklaying from a scaffold, fall protection is required if the working side of the scaffold has a gap greater than 14” between the scaffold and structure.
1.4. Confined Spaces

Introduction

No Whiting-Turner or contractor/subcontractor employee shall enter into any type of confined space until it has been identified and labeled by their respective employer’s competent person and all applicable safety requirements contained in 29 CFR 1926 Subpart AA – Confined Spaces in Construction and this section have been met. All contractors/subcontractors involved in confined space activities shall submit a program—which meets or exceeds all federal, state and local regulations as well as the directives contained herein—to Whiting-Turner prior to the commencement of work in said spaces.

Procedures

General.

All confined spaces, regardless of classification, shall have continuous multi-gas/4-gas air monitoring while the space is occupied by tradespersons.

Pre-entry assessment.

Prior to confined space entry, each employer must ensure that a competent person identifies all confined spaces in which one or more of the employees it directs may work, identifies each space that is a permit space, through consideration and evaluation of the elements of that space, including testing if necessary.

It is Whiting-Turner’s position that all confined spaces are permit required until proven otherwise [in writing] by the contractor/subcontractor’s competent person. Depending upon the type of confined space identified, specific criteria must be satisfied before entry.

Signage.

All confined spaces shall be labeled. If the workplace contains permit spaces, the entry supervisor shall inform employees by posting danger signs at all entrances of confined spaces. The signs will be legible in English and in the predominant language of non-English reading workers. At a minimum, the following information will be included:

DANGER
PERMIT-REQUIRED CONFINED SPACE
DO NOT ENTER

Authorized entry.

If permit spaces exist in the workplace, only authorized employees may enter the spaces. The entry supervisor shall take effective measures to prevent unauthorized employees from entering into permit spaces. No work will be permitted in confined spaces until the contractor/subcontractor has a valid confined space permit accepted by a designated Whiting-Turner employee.
Modification of non-permit spaces.

If non-permit spaces are modified, or experience any change that causes an increased hazard to entrants, the supervisor of the exposed employees, shall ensure that the space is reevaluated by the competent person.

Permit required spaces.

If permit spaces are identified, the following program elements, at a minimum, must be addressed in a written project specific confined space procedure.

- Environmental Controls – to ensure that pre-entry precautions (i.e. hazard evaluations, operating procedures, isolation methods, safety equipment, etc.) have been implemented.
- Atmospheric Testing – for oxygen content, explosive vapors, toxic substances and carbon monoxide to ensure that acceptable entry conditions exist.
- Assigned Duties – of each participant must be established and clearly communicated.
- Rescue Equipment and Emergency Services – develop and implement procedures for summoning rescue and emergency services, for rescuing entrants from permit spaces, for providing necessary emergency services to rescued employees and for preventing unauthorized personnel from attempting a rescue.
- Entry Permit System – used to record critical data and serve as official entry authorization must be implemented and managed accordingly following the completion of permit space work.
- Training – of employees expected to enter permit required confined spaces must be provided to ensure that understanding of assigned duties and the requirements of 29 CFR 1926.1207.
- Medical Surveillance Program – for all employees who must enter permit spaces shall be established to ensure that they have been medically evaluated and cleared to work in such spaces.
1.5. Cranes and Derricks

Introduction

Each contractor working on a Whiting-Turner project will comply with 29 CFR 1926 Subpart CC – Cranes & Derricks in Construction in addition to the following guidelines.

Procedures

General requirements.

- No crane or hoist shall be placed in service on a Whiting-Turner project until an annual, third party inspection and supplemental reports are submitted to Whiting-Turner indicating that the crane or hoist meets the manufacturer’s inspection criteria.
- If the manufacturer’s inspection criterion does not exist, a structural engineer, familiar with crane or hoist’s design and dynamics, may develop or use existing inspection criteria.
- Whiting-Turner requires all crane operators to be certified or qualified in accordance with the requirements of Subpart CC.
  - Copies of all certifications shall be submitted to Whiting-Turner supervision prior to the start of work.
  - A certified operator license must be provided where state or local ordinances require additional certifications.
  - All operators shall submit to a physical exam prior to beginning work on any Whiting-Turner project.
- Mobile crane movement on site must be in accordance with manufacturer’s recommendations.
- The swing radius of cranes must be properly barricaded at all times while working on site.
- Wire rope, its attachments, fittings, sheaves, and safety devices must be inspected according to the manufacturer’s recommendations. Copies of the inspections must be submitted to Whiting-Turner.
- Wedge sockets and fittings must be the proper size to match the wire rope and must move to hold the wire rope under load. The dead end must be terminated according to ANSI B30.5 and must not be attached, in any manner, to the live side of the load line.
- An anti-two-block or warning device is required on all cranes except those engaged in driving piles.
- A qualified rigger must inspect the rigging prior to each lift.
- All windows in cabs must be safety glass that produces no visible distortion that will interfere with the safe operation of the machine.
- Outriggers shall be fully extended unless proven to be a hindrance to the safe operation of the crane or infeasible by the operator. In all cases, the use intermediate outriggers may only be considered if it is permitted by the manufacturer.
- Whiting-Turner’s crane checklist shall be completed prior to each lift.
Lift plans.
- All pick & place lifts—excluding standard deliveries—requires a formal lift plan.
  - This plan must be submitted to the Whiting-Turner project team for record, review, and acceptance prior to the commencement of the lift.
  - Whiting-Turner personnel shall not approve lift plans; however, Whiting-Turner reserves the right to reject lift plans or require additional information if deemed necessary.
- All completed documentation with reference to the lift—including Whiting-Turner Crane Authorization Form—shall be onsite prior to beginning and for the duration of the activity.

Ground conditions.
- Unless otherwise agreed upon, the Whiting-Turner Superintendent must ensure that appropriate ground preparations are provided—firm, drained and graded.
- The agreement of acceptable ground conditions and notification of known underground hazards shall be considered completed once the competent persons have signed the Whiting-Turner Crane Authorization Form.

Controlling loads.
- All loads to be lifted at Whiting-Turner project sites shall have a tag line attached.
  - The competent person shall determine the size, rope materials, and length of the tag line.
  - The line shall be attached in a way that maintains control of the load to reduce the risk of caught-in/-between and struck-by hazards to employees and surroundings during any lift.
  - Where encroachment precautions are required, taglines must be of nonconductive material.

Assembly/disassembly.
- Manufacturer
  - When assembling or disassembling equipment (or attachments), the contractor shall comply with all applicable manufacturer exclusions and procedures for assembly or disassembly.
- General Requirements
  - Assembly/disassembly must be directed by a person who meets the criteria for both a competent person and a qualified person, or by a competent person who is assisted by one or more qualified persons.

Power line safety. (Up to 350 kV)
- Equipment Operations
  - Before beginning equipment operations, the employer must identify the work zone.
  - If during the operations any part of the equipment will get closer than 20 feet to a power line, the employer must ensure that (a) The power line is de-energized and visibly grounded at the worksite, (b) No part of the equipment gets closer
than 20 feet to the power line; or (c) A table in the standard is used to determine
the minimum safe distance based on the line's voltage.

Inspections.

- Copies of all required inspections completed shall be submitted to the Whiting-Turner project team after completion of the inspection for record at the project site.
- Inspections are required during the following intervals and specifications
  - Modified equipment – Modified equipment must be inspected by a qualified person after the modifications have been completed, but prior to initial use.
  - Repaired and Adjusted Equipment – Repaired and adjusted equipment must be inspected by a qualified person after the repairs or adjustments have been completed, but prior to initial use.
  - Post Assembly – Upon completion of assembly, a qualified person must inspect the equipment to assure that it is configured in accordance with manufacturer equipment criteria.
  - Post Assembly – a 3rd party post assembly inspection is required for all Crawlers and Tower Cranes
  - Each Shift – A competent person must begin a visual inspection prior to each shift the equipment will be used, which must be completed before or during that shift.
  - Monthly – Each month that the equipment is in service it must be inspected in accordance with the criteria established in the standard.
  - Annual Comprehensive – At least every 12 months the equipment must be inspected by a qualified person in accordance with the criteria established in the standard.
  - Severe Service – When the equipment is used enough that there is a reasonable possibility of damage or excessive wear the employer must stop using the equipment and have it inspected by a qualified person using the inspection criteria established in the standard.
  - Equipment Not in Regular Use – Equipment that has been idle for three (3) months or more must be inspected by a qualified person using the inspection criteria established in the standard.
- Any crane with a deficiency that could potentially affect the safe operation of the equipment shall be taken out of service immediately and remain so until documented repairs have been made.

Safety devices.

- The following safety devices are required on all equipment unless otherwise specified in 29 CFR 1926 Subpart CC:
  - Crane level indicator
  - Boom stops (except for derricks and hydraulic booms)
  - Jib stops (if jib is attached)
  - Locks on equipment with foot pedal brakes
  - Integral holding device/check valves on hydraulic outrigger jacks and hydraulic stabilizer jacks
o Rail clamps and rail stops on equipment on rails (except for portal cranes)
  o Horn
  o **Boom-tip anemometer or equivalent device**

**Operations.**
- Contractors must comply with all manufacturer procedures applicable to the operational functions of equipment, including its use with attachments.

**Authority to stop operation.**
- Whenever there is a concern about safety, the operator has the authority to stop and refuse to handle loads until a qualified person has determined that the safety concern has been resolved.

**Signals.**
- A signal person must be provided in each of the following situations:
  o When the point of operation is not in full view of the operator
  o When the view in the direction of travel is obstructed when the equipment is traveling
  o When site specific safety concerns are an issue because either the operator or the person handling the load determines that it is necessary.
- **Types of Signals**
  o Signals to operators must be by hand, voice, audible, or new signals.
  o **Whiting-Turner prohibits the use of cell phones for signaling of cranes and equipment**
- **Suitability** – The signals used and means of transmitting them must be appropriate for the site conditions.
- **During Operations** – During the operations the ability to transmit signals must be maintained. If that ability is interrupted the operator must safely stop all operations until the ability to transmit is re-established and a proper signal is given and understood.
- **Safety Problems** – If the operator becomes aware of a safety problem and needs to communicate with the signal person, the operator must safely stop all operations.
- The operations must not resume until the operator and signal person agree that the problem has been resolved.
- **Only One Signaler** - Only one person may give signals to a crane or derrick at a time, except for those giving the emergency stop signal.
- **Safety Problems Alert** - Anyone who becomes aware of a safety problem must alert the operator or signal person by giving the stop or emergency stop signal.
- **Communication with Multiple Cranes/Derricks** - Where a signal person is in communication with more than one crane/derrick, a system must be used for identifying the crane/derrick each signal is for as follows:
  o For each signal, prior to giving the function/direction, the signal person must identify the crane/derrick the signal is for or must use an equally effective method of identifying which crane/derrick for which the signal is intended.
• Testing Signal Transmission Devices - The devices used to transmit signals must be tested on site before beginning operations to ensure that the signal transmission is effective, clear, and reliable.
• Dedicated Channels - Signal transmission must be through a dedicated channel, except:
  o Multiple cranes/derricks or more than one signal person may share a dedicated channel for coordinating operations; and
  o Where a crane is being operated on or adjacent to railroad tracks, and the actions of the crane operator need to be coordinated with the movement of other equipment or trains on the same/or adjacent tracks.
• Language - The operator, signal person and lift director (if applicable), must be able to effectively communicate in the language used.

Work area control.
• Swing radius hazards – Workers must be protected from foreseeable risks of being struck by and/or pinched or crushed by the equipment's rotating superstructure.
• Training – Affected tradespersons must be trained to recognize struck by and pinch/crush hazard areas posed by the rotating superstructure.
• Barriers – Control lines, warning lines, railings or similar barriers must be erected to mark the boundaries of the hazardous areas. All barriers must be equipped with a warning sign (such as “danger-swing/crush zone”).
• Protecting tradespersons in the hazard area – Before a worker goes to a location in the hazard area that is out of the view of the operator, the worker (or someone instructed by the worker) must ensure that the operator is informed that he/she is going to that location.

Keeping clear of the load.
• Hoisting routes - Where available, hoisting routes that minimize the exposure of tradespersons to hoisted loads must be used.
• Workers in fall zone - While the operator is not moving a suspended load, no worker must be within the fall zone except for the following:
  o Workers engaged in hooking, unhooking, or guiding a load
  o Workers engaged in the initial attachment of the load to a component or structure
  o Workers operating a concrete hopper or concrete bucket

Safety criteria for tradespersons in fall zone.
When affected tradespersons must be in the fall zone the following criteria must be met:
• The materials being hoisted must be rigged to prevent unintentional displacement.
• Hooks with self-closing latches or its equivalent must be used.
• A qualified rigger must do the rigging.

Safety criteria for lifting over occupied buildings.
Every reasonable effort should be made to avoid lifting over an occupied building. In cases where the competent person for this operation has determined that a lift over an occupied building is necessary and other options are infeasible, the following criteria must be met:
- Prior to the lift, the area of the top two floors that is within the fall zone shall be evacuated
  - If the contractor’s/subcontractor’s qualified, competent person determines it—after a thorough hazard assessment—that evacuation is not necessary, this decision shall be submitted to Whiting-Turner be in writing. In addition, the contractor’s/subcontractor’s competent person must ensure that the critical lift protocols are followed.
- All affected paths of access and egress must be barricaded to prevent access to the restricted area or fall zone
- Signage notifying occupants of the activity and their new path of travel shall be conspicuously posted.

**Safety criteria for receiving a load.**
Only tradespersons receiving the load can be within the fall zone when the load is being landed.

**Safety criteria for tilt up or tilt down operations.**
During tilt up or tilt down operations the following criteria apply:
- No worker may be directly under the load.
- Only tradespersons essential to the operation can be in the fall zone but may not be directly under the load.

**Workers essential to the operation.**
Workers are essential to the operation only if the following apply:
- It is infeasible for the worker to perform the operation from outside the fall zone and;
- The worker is physically guiding the load; or
- The worker is closely monitoring and giving instructions regarding the loads movement; or
- The worker must detach the load or initially attach the load to another component or structure.

**Operator qualification and certification.**
- Qualification or certification - The employer must ensure that the operator is qualified or certified in accordance with the standard. Employer options for getting affected operators qualified or certified follow:
  - Certification by an accredited crane operator testing organization;
  - Qualification by an audited employer program;
  - Qualification by the U.S. military; or
  - Licensing by a government entity.
- Exceptions to qualification and certification requirements - Operators of derricks, side-boom cranes, or equipment with a maximum manufacturer-rated hoisting/lifting capacity of 2,000 pounds or less are exempt from qualification and certification requirements.

**Signal person qualifications.**
• Qualification Requirements - The employer must ensure that signal persons meet the following qualification requirements before giving any signals to operators:
  o Obtain documentation from a third party qualified evaluator showing that the signal person meets the qualification requirements established in the standard; or
  o Obtain documentation from the employer's qualified evaluator (not a third party) showing that the signal person meets the qualification requirements established in the standard.
• Documentation Availability - The employer must make signaler qualification documentation available at the site where the signal person is employed.
• Knowledge Requirements - Each signal person must demonstrate the following:
  o Knowledge and understanding of the type of signals used. If hand signals are used, the signal person must know and understand the Standard Method for hand signals;
  o Competence in the application of the types of signals used;
  o Basic understanding of the equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads;
  o Knowledge and understanding of the relevant requirements of the standard covered in the sections on Signals-General Requirements, Signals - Hand Signal Chart, and Signal Person Qualifications; and
  o That he or she meets the qualification requirements through successful completion of an oral or written test and a practical test.

Qualifications of maintenance & repair employees.
• Maintenance, inspection, and repair personnel are permitted to operate the equipment only where specified requirements are met as established in the standard.

Hoisting personnel.
• Personnel hoisting requirements - The use of equipment to hoist personnel is prohibited unless the employer can demonstrate that other methods would be more hazardous and is able to comply with the personnel hoisting requirements that are established in the standard.
• Hoisting personnel on Whiting-Turner project sites shall be done only after review of the plan and deemed feasible by Vice President and the Area EH&S Manager assigned to the project.
• Hoisting personnel on Whiting-Turner projects shall be considered a critical lift or activity, and therefore shall meet all requirements of a critical lift before the lift may begin.
1.5.1 Critical Lifts

Introduction

The goal of this section is to assure that crane lifts which meet the criteria stated below are done with understanding of the regulatory requirements as well stated guidelines contained herein.

The Whiting-Turner Contracting Company identifies a critical or special lift as

- any lift where the total weight of the load and the deductions for the equipment combined exceeds 75% of the capacity of the crane capacity chart at the specific boom length and radius of the load;
- any lift where there will be more than one (1) crane or piece of load handling equipment attached to the load at a time;
- any lift that involves the lifting of personnel;
- any lift where the contents of the lift are considered hazardous to health or environment, and an accidental release could result harm to either;
- any lift where encroachments precautions are required for power lines.

Lift Plan Development

The load.

- Identify loads weight, center of gravity, and dimensions, and the sources of that information.
- Identify any components that could shift during the lift and develop a method to secure any items identified if required.
- Identify load attachment points and assure they are suitable for the load to be handled, while maintaining load integrity.
- Identify the requirements to be met for the loads orientation and securement prior to the release of the load handling equipment and rigging.

Load handling equipment.

- Identify the load handling equipment and the anticipated configuration(s).
- Assure the load handling equipment can handle the total anticipated load, including the rigging, accessories, and attachments in the intended configuration(s).
- Ensure the load handling equipment is in compliance with the requirements of the site, the manufacturer or qualified person, industry-recognized standard, local, state, and federal regulations.
- Establish the process to setup, erect, or install, and dismantle the load handling equipment using the information provided by the following:
  - The manufacturer
  - A qualified person
  - Site specific recommendations
  - Applicable regulatory requirements
- Identify all required inspections and tests on the load handling equipment that need to be performed. Additional inspections may be necessary for repetitive critical lifts.
Rigging.

- Establish rigging method that will support and secure the load and is suitable for the activity.
- Ensure that the rigging method and the equipment have the capacity to support the load in the configuration or geometry required by considering the following:
  - Dynamic Effects
  - Adverse environmental conditions, temperature, wind, lightning etc.
  - Position of the center of gravity relative to rigging support points
  - D/d ratio
- Identify the weight of the rigging, accessories, and attachments, as well the sources of that information
- Establish the process to ensure that rigging equipment meets the manufacturer’s specifications, regulations, and industry-recognized standards (e.g. ASME B30.9, B30.20, and B30.26) and onsite requirements.
- Identify all necessary inspections and tests for the rigging equipment and that they are carried out prior to the lift
- For repetitive lifts ensure a more frequent inspection process is in place.
- Establish the process to install and disassemble the rigging equipment using the manufacturers’ information and other applicable standards.
- Ensure that the rigging will be protected from damage during the activity.

The travel path.

- Identify the path of travel for the load and the load handling equipment
- Establish a process to minimize the exposure to overhead loads by way of barricades, spotters, or lookouts to ensure only authorized personnel are allowed into the fall zone
- Ensure the load and the load handling equipment has adequate clearance to prevent contact with site-specific hazards or obstructions during the activity
- Ensure a tagline of proper type and length is obtained for load control
- Ensure that the path taken if pick and carry operation is instituted that level and substantial support are established.

Personnel.

- Identify the tasks to be completed prior to, during, and after the load handling activity, and the personnel required to complete each task.
- Identify the specialized training required for these tasks and ensure copies of these training completion documents are attached to the plan.

Site, services, and ancillary equipment.

- Identify the equipment necessary to assist the load handling operation, (high reach, personnel lift, boom lift etc.)
- Identify and ensure specialized training is completed and copies of the completion are attached to the lift plan if required.
- Ensure that ground conditions for equipment support and that proper all underground hazards and placement have been identified and marked for adequate clearance.
• Ensure that all equipment is used and operated in accordance with manufacturer, regulatory and industry standards.

Communication system.
• Identify the suitable communication system to be used during the activity. Acceptable methods for Whiting-Turner project sites are:
  o Voice or radio signals
  o Hand signals
  o Other methods of signals are available but would require review prior to being accepted in respect to effectiveness and applicability.
• Identify back up system to be used in the event of interruption from initial communication system plans

Site control.
• Identify vehicular and pedestrian access and traffic controls to be used.
• Ensure the plan addresses the following:
  o Vehicular and pedestrian traffic in and around the site that could potentially be affected by the load handling activity
  o Potential interference for other site activities and the controls to used
  o Location of barricades or other measures which may be put in place to restrict traffic or prohibit interference during the load handling activity

Contingency considerations.
• The plan should address, at minimum, the following potential events that could cause deviation from the original lift plan:
  o Equipment malfunction or loss of power (e.g. loss of power, fouled rigging, radio communication failure etc.)
  o Adverse changes to the environment (weather, visibility)
  o Deviation from the planned load characteristics identified
  o Adverse changes to the site conditions (surrounding activities, change in ground conditions, and unauthorized entry to the fall zone).

Emergency action plan.
• Review the existing Emergency Action Plan and coordinate modifications created by the load handling activity if applicable.

Pre-lift meeting.
The lift director shall conduct the meeting and the Whiting-Turner supervisor in charge of the operation or other designated person from Whiting-Turner shall attend the meeting along with all associated personnel to the lift.
• At a minimum, the following elements should be reviewed with all load handling activity personnel:
  o Overview of the load handling activity
  o LHE, rigging, and other equipment involved in the load handling activity
The sequence of events and step-by-step procedures for the entire load handling activity
- Safety measures, as required (e.g. work task plan action items)
- Load handling activity personnel assignments, addressing
  1. Individual responsibilities (e.g. location, time, task)
  2. Work location hazards (e.g. pinch points)
  3. Communication methods
  4. Personal protective equipment requirements
  5. Qualification(s) of assigned personnel
- Concern raised during this meeting shall be addressed prior to proceeding with the load handling activity
- At the completion of the pre-lift meeting, the lift director should confirm that the attendees understand the plan and respective roles and responsibilities during the load handling activity
- For repetitive lifts, the lift director should decide the frequency of pre-lift meetings. Pre-lift meetings are not required prior to each repetition of the load handling activity.

**Executing the critical lift plan.**
- Preparation for the load handling activity - the lift director should confirm that all setup and preparation requirements of the plan are in place and all required inspections and tests on the LHE(s) and rigging equipment have been completed.
- Initiating the Load Handling Activity - immediately prior to performing the load handling activity, the lift director should ensure that either:
  - All requirements of the plan continue to be met and no conditions exist that would preclude implementation of the plan; or
  - If a deviation exists, the load handling activity is not initiated until the deviation is addressed by a qualified person or the lift director determines that conditions are acceptable to allow the activity to begin.
- During the Load Handling Activity - the lift director should ensure that the load handling activity continues to comply with the plan.
  - If the operation deviates from the plan, the load handling activity should be stopped and evaluated to determine if
    1. The load handling activity can resume according to plan;
    2. The contingency measures can be implemented
    3. The plan can be readily modified at the site to accommodate an unexpected condition or event; or
    4. The load handling activity can no longer be implemented a planned, requiring a modified plan to be prepared. In such case, the load and the LHE shall be secured, if possible, until a new plan can be developed
    5. Changes or modifications to the plan should be communicated to all affected load handling personnel prior to initiating the change.
    6. If the load handling activity is stopped for any reason, only the lift director may initiate restart.
- After the completion of the load handling activity, the lift director should
o Review the development, planning, and execution of the load handling activity with the load handling personnel. Items for review should include, but not be limited to, the requirements of all previous sections.

- Identify potential measures to improve future load handling activity
- Communicate any recommendations identified during the activity to the appropriate personnel for future considerations

- For repetitive lifts, decide the frequency of post-lift reviews and evaluation of the lift plan. Post-lift reviews may not be required after each repetitions of the load handling activity.
1.5.2 Tower Cranes

Introduction

Certain projects, due to size and scope, require the use of tower cranes. The quantity and location of towers cranes will vary from project to project. In some cases, due to project requirements, multiple tower cranes may be in a manner resulting in an overlapping operating zone (i.e. area where the operating zone or radius of working jib intersects the operating zone of another tower crane). While this will increase the hook access across the working deck and enhance the effectiveness of each crane, it brings with it significant safety concerns. For that reason, Whiting-Turner has established the following guidelines. In addition, notice to the Federal Aviation Administration (FAA) guidelines set forth in 14 CFR—Aeronautics and Space, Part 77—Safe, Efficient Use, and Preservation of Navigable Airspace, must be adhered to.

Procedures

Employers using tower cranes must comply with specific provisions in the standard that cover the following subjects:
- Erecting, Climbing and Dismantling
- Signs
- Safety Devices
- Operational Aids
- Inspections

Overlapping operating zones.

Multiple tower cranes operating with an overlapping operating zone have the potential to come into contact with each other. Such an occurrence has the potential to cause damage to the crane and/or its components; cause the crane or cranes to fail and topple; and/or cause severe injury and even death to tradespersons and/or the public. The safe operation of multiple tower cranes with an overlapping operating zone is determined by the communication and coordination of experienced and skilled operators. Nevertheless, by taking a proactive approach to safety and risk management, there is an opportunity to promote safe crane operations and minimize the potential for crane related accidents resulting from overlapping operating zones.

Written operating procedures must be developed and implemented to coordinate lifting tasks in the overlapping operating zone to prevent contact, collision, or interference between a component or suspended load of one crane with a component or suspended load of another crane. The following safety procedures / protocols should be considered if a project has multiple tower cranes with an overlapping operating zone to minimize, if not eliminate, the potential for contact/collision between cranes.
- Establish a means and protocol for communicating between the crane operators when a crane operates in the overlapping zone. Communicating protocols may include the following:
  - Crane operators must have the ability to communicate to each other (via radio - same channel)
- Reduce distracting background noise on radios by ensuring crane operators, monitor, and limited riggers have separate radio channels
- Include protocols that all crane operators must follow before entering another crane’s operating zone. Consider including the following:
  - Visually ensure it is safe to enter the other crane’s operating zone
  - Communicate entry intent into that zone to the other operator
  - Receive an acknowledgement response from the other operator. If the entering operator does not receive acknowledgement from the other operator than the entering operator must not proceed with entering the other operator’s operating zone
- Standardize the language used for all communication between crane operators (English)
- Consider limiting the number of individuals that can communicate directly with the operators (i.e. individuals on the working deck or other requesting use or support of the crane, etc.)
- Establish clearance requirements for loads passing over or near another tower crane
- Proximity alarms must be utilized to decrease the potential for tower crane contact/collision. Various zone protection and boundary protection safety systems exist in the marketplace (e.g. TAC-3000 Tower Crane Collision / Accident Avoidance Safety System)
- Consider creating a ‘right-of-way’ procedure giving one crane priority for working in the overlapping operating zone.
- Consider assigning a monitor to observe / supervise all crane activity and provide that monitor with the ability to stop all crane activity should violations of protocol occur, or potentially hazardous situations be observed. The following elements / activities should be considered related to use of said monitor:
  - Monitor shall be equipped with radio to communicate with all crane operators
  - Demonstrate bright, highly visible outerwear unique to the monitor so to be easily distinguishable to the operators and other tradespersons (e.g. bright colored vest and/or hardhat, etc.).
  - Monitor shall be solely dedicated to its role as monitor and shall not participate in any other activities on the project while acting as monitor
  - Monitor shall observe crane activity to ensure that proper protocol is followed
  - Monitor shall listen to communication between operators to ensure that protocol is followed:
    - If operators fail to communicate with each other as protocol requires, the monitor shall issue a reminder to the operators requiring compliance to protocol
    - Monitor shall record instances when operators fail to comply with protocol and inquire why the violation took place
    - Violations in protocol should be copied to the appropriate supervisor / Superintendent and safety personnel of the responsible trade. Documentation shall also be made available to Whiting-Turner
  - Monitor should have the ability to stop crane activity if required to maintain safe crane operations. Methods for delivering an “ALL STOP” directive may include the following:
1. Outfit monitor with air horn to be used to alert a stop directive to operators. Test procedure in field to identify most effective method for communicating signal to operators.

2. Outfit monitor and operators with a separate and dedicated radio to deliver the stop directive. The separate radio is reserved for stop directive between monitor and operators only and would ensure that operators receive directive.

   o Monitor shall be a competent person and subject to Whiting-Turner approval

   • Help to better identify the counter deck of the lower crane by installing bright flags or other markings on the back of the counter deck.

   • Identify counter deck radius of lower crane on the current working deck by means of flags, cones, or other clear delineators to be conspicuously visible. Confirm that delineators are clearly visible to operators and other crane related personnel.

   • Formal overlapping operating zone plan shall be distributed to and acknowledged by the responsible contractor’s Superintendents, foremen, operators, monitor(s), and safety personnel – at a minimum.

   • Disciplinary procedures to address violations in protocol, etc. should be included.

      o Appropriate disciplinary procedures should be identified and implemented on the responsible party if crane contact or associated accident, etc. takes place (e.g. removal of operator or responsible party from the project).

      o Responsible trade shall identify how it will determine who the responsible party is should an occurrence take place requiring disciplinary action.

      o Whiting-Turner shall be copied on all recorded non-conformances with protocol as well as related disciplinary procedures/actions.

         • If it is determined that only one tower crane is needed for a given activity or shift of work, the overlapping work zone plan must address the crane that is not in use to avoid interference with the working crane. Procedures for this situation may include the following:

            o If the non-working crane is the higher crane it can be allowed to weathervane and the working crane (lower) can work unobstructed.

            o If the non-working crane is the lower crane:

                1. Non-working crane shall be operated, but not used, to keep non-working crane from weathervaning or movement of the non-working crane into the working crane’s operating zone.

                2. Investigate to determine whether the non-working crane is outfitted with a locking mechanism to keep the crane from weathervaning except under extreme weather conditions. If this is the case, the non-working crane can be locked to prevent weathervaning into the working crane’s operating zone. At certain wind speeds (determined by crane manufacturer) the lockdown function will be overridden, and the non-working crane will be allowed to weathervane. Weather conditions and wind speed causing this override will require all crane activity to stop in this scenario.
1.6. Demolition

Introduction

Each contractor/subcontractor performing demolition on a Whiting-Turner project will comply with 29 CFR 1926, Construction Industry Regulations, Subpart T – Demolition, in addition to the following guidelines.

Procedure

Preparatory operations.

- Prior to initiating demolition activities, a competent person must make an engineering survey of the building to determine the condition of the structure and identify areas subject to unplanned collapse. A copy of this inspection must remain on site.
- All utilities must be shut off, capped, or locked out of service beyond the building line before demolition work is initiated.
- Prior to the start of work, a hazard assessment must be performed to identify any hazardous chemicals, gases, explosives, flammable materials, or similarly dangerous substances that may have been used on the property.
- Where employees are exposed to fall hazards, guardrail and personal fall arrest systems must be used. All hole covers must be identified and secured against accidental displacement.
- Any openings cut in a floor for the disposal of materials can be no larger than 25% of the aggregate of the total floor area, unless the lateral supports of the removed flooring remain in place.
- Contractor/subcontractor shall verify that all local ordinances and permitting issues have been addressed as they relate to demolition.
- Safety data sheets for demolished material must be provided by the demolition contractor.
- Task lighting—which meets or exceeds the requirements of the standard—shall be provided by the demolition contractor/subcontractor.

Stairs, passageways, and ladders.

- Access to a structure being demolished shall be restricted; tradespersons shall be rerouted to designated stairways, passageways, and ladders. All other points of access shall remain closed.
- All designated access points shall clearly be marked, inspected periodically, and maintained in a clean, safe condition.

Chutes.

- No material may be dropped to a point outside the building unless that area is delineated with a protective barricade and the distance to any point does not exceed 20 feet.
- All chutes must be entirely enclosed except for openings at or slightly above the floor level for the insertion of materials.
- A substantial gate must be installed in each chute at or near the discharge end. A competent person must be assigned to control the operation of the gate and the backing and loading of trucks.
- Chutes must be designed and constructed of such strength as to eliminate failure due to the impact of material and debris loaded into them.
- Fall protection may be required where chute opening may create a fall exposure.

**Removal of walls, masonry sections and chimneys.**
- Masonry walls, including sections of walls, will not be permitted to fall onto the floor of the building under demolition unless an engineer has determined that the floor can withstand the imposed load.
- No wall section, more than one story in height, will be permitted to stand alone without lateral bracing unless it was designed to stand alone.
- Structural or load-supporting members of any floor will not be cut or removed until all stories above such a floor have been demolished or removed.

**Removal of walls, floors, and material with equipment.**
- Mechanical equipment will not be used on floors unless the floors are of sufficient strength to safely support the equipment.
- Mechanical equipment will only be used for its intended purpose according to the manufacturer’s recommendations.

**Removal of steel construction.**
- Steel construction will be dismantled column length by column length, tier by tier.
- When floors have been removed planking—18” wide by 2” thick—must be used by employees engaged in razing the steel framing.

**Mechanical demolition.**
- No employees will be permitted in an area where “ball” or “clam” work is being performed. Only employees necessary for the performance of the operation may be permitted in this area.
- The area must be identified with warning barricades and signs.
- During this operation continuous observations, by the competent person, must be made to identifying potential areas of failure.
1.7. Electrical Hazards Prevention

Introduction

Use of electricity on the jobsite poses serious hazards, with employees potentially becoming exposed to such dangers as electric shock, electrocution, fires, and explosions. All Whiting-Turner employees and contractors/subcontractors working on a Whiting-Turner project will comply with NFPA 70E Electrical Safety Practices and 29 CFR 1926, Construction Industry Regulations, Subpart K – Electrical, in addition to the following guidelines.

Procedures

Working on or near exposed energized parts.
- It is Whiting-Turner’s policy that no one works on live electrical circuits. If a situation arises where it is impossible to perform a task with the circuit de-energized, the Whiting-Turner Superintendent or Project Manager shall contact the Vice President and submit a formal request with a live electrical work plan prior to performing the work. An Area EH&S Manager must review the plan. A formal pre-construction meeting shall occur prior to any such work occurring.
- Only qualified persons may work on electric circuit parts that have not been de-energized under the procedures of 1910.333.
- Such persons must be capable of working safely on energized circuits and shall be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials and insulated tools.
- All work must be completed with strict compliance to NFPA 70-E requirements and guidelines.
- The contractor/subcontractor shall provide proof of training for all tradespersons when requested by Whiting-Turner.
- Light switches and receptacles must be protected by permanent or temporary cover plates prior to energizing the circuit.

Ground fault circuit interrupters.
- All 120-volt, single-phase 15 and 20 ampere receptacle outlets which are not part of the permanent wiring of the structure and which are in use by employees shall have approved GFCI’s.
- Whiting-Turner requires that all projects are 100% GFCI compliant. An Assured Equipment Grounding Conductor Program may be used in addition to—but not in lieu of—the GFCI program.
- All GFCI receptacles and circuit breakers shall be tested monthly to ensure the GFCI is properly functioning and protecting the worker. It is the responsibility of the electrical contractor/subcontractor to perform inspection and testing. The documentation shall be made available upon request.

Electric tools.
- All portable electric tools such as saws, hammers, drills, vibrators, and float machines must bear the label of a Certified Testing Agency, such as Underwriters Laboratories, CSA, ETL, or the like.
Extension cords.
- Only round, heavy-duty (type S, SJO, SJTW, ST, SO, STD) are acceptable for use on a construction site; at least 12 gauges or larger.
- Cords must be maintained in their original design configuration.
- Any cord which is damaged or has the grounding pin removed shall be removed from service, including power tools.
- Whenever an extension cord is used for construction work, a GFCI is required between the extension cord and the receptacle.
- All electrical cords shall be out of the hallway, corridor, aisle, stairway, doorways, and exit areas where a tripping hazard may occur.
- All electrical cords shall be protected from damage by equipment, carts, trucks, and other rolling objects.
- Where possible, all extension cords will be suspended (8’) above the floor or working surface.
- Extension cords shall not be fastened with staples, hung from nails, or suspended with non-insulated wire.

Temporary wiring.
- All temporary wiring and lighting must meet current NEC codes.
- Temporary lighting must never be put on the same circuit as temporary receptacles.
- All temporary lighting circuits must originate from GFCI protected breakers.

Temporary lighting.
- The minimum illumination level 5 foot-candles; this shall be maintained by the electrical contractor at all times.
- Installation of temporary lighting must be per manufacturer’s specifications and in compliance with OSHA, NFPA, NEC and local codes.

Fish tapes.
- Fish tapes or lines made of metal or any other conductive material are prohibited; non-conductive tapes and lines will be used instead.
1.8. Energy Control Policy

Introduction

The intent and purpose of this procedure is to reduce or eliminate the danger of the unexpected release of stored or residual energy that could cause injury or death to the employee or to the public. Each contractor/subcontractor working on a Whiting-Turner project will comply with 29 CFR §1926.417, “Locking and Tagging of Circuits”, in addition to 29 CFR §1910.147, “The Control of Hazardous Energy” along with the following guidelines.

Procedures

- **Lockout/tagout (LOTO)** shall not be considered for use until all other avenues of attaining a “zero-energy state” have been exhausted.

- **All contractors/subcontractors working with electrical systems are required to have a written lockout/tagout procedure. A competent person shall be responsible to control all aspects of the LOTO procedure. They will ensure coordination with the appropriate tradesmen.**

- **If a system can be locked out through design or by other means, this will be the preferred method.**

- **The lockout device shall be substantial enough to prevent removal.**

- **The lock shall be a separately keyed lock for use only with the lockout system.**

- **The lockout device must be tagged with the name of the employee and their company. There shall be one lock for each employee (including Whiting-Turner) exposed to the system.**

- **If working in a multi-shift environment each employee shall remove their respective locks at the end of their shift. The creating contractor shall have a system in place to ensure that exposure is eliminated by controlling the potential hazardous energy by means of LOTO.**

- **Employees shall not leave locks on past the end of their shift. The use of 100% LOTO must be maintained by the responsible contractor/subcontractor until the completion of the task. Verification by all competent persons in charge of the LOTO shall be completed prior to re-energizing the system.**

- **If the energy isolation device cannot be locked out and a tag must be used, authorization from the Area EH&S Manager and Vice President is required prior to start of work.**

- **Tag out devices, including the means of attachment, shall be substantial enough to prevent accidental removal.**
• **The tag shall warn against energizing the tagged-out system such as: do not start, do not open, do not close, do not energize, do not operate, etc.**

• **The name of each employee shall be displayed on respective tags.**

• **The competent person shall be responsible for removing the tag and activating the system after all exposed employees have removed their tags.**

• **In the event an employee is discovered tampering with or violating the LOTO procedure, the employee will be removed from the project indefinitely.**

**Training and Documentation**

• Each employer utilizing LOTO must establish a program and utilize procedures for affixing appropriate lockout or tagout devices to energy isolating devices, and to otherwise disable machines, piping, or equipment to prevent unexpected release of stored or residual energy to prevent injury to employees.

• Each employee affected by the LOTO procedure shall be trained in the procedure. Records of training will be kept on site and be made available to Whiting-Turner upon request.

• Each contractor/subcontractor involved in LOTO procedures shall maintain a log on site that identifies the following:
  - Date of usage
  - Number of locks and tags used
  - Persons involved
  - Time of LOTO initiation
  - Time of LOTO removal
  - Designated competent persons
  - Location of LOTO Devices

• Electrical drawings or P&ID identifying specific locations of the LOTO devices shall accompany the log.

• Locks shall only be removed by the person who applied the lock. In extreme circumstances, after “all reasonable means” to contact the employee who was responsible for the lock were exhausted, the Whiting-Turner Superintendent shall request a meeting with the Area EH&S Manager and contractor’s/subcontractor’s competent person. This process is to ensure that the contractor’s/subcontractor’s competent person has considered and documented all the necessary steps to keep the workforce safe prior to removing the lock. The decision to remove a lock rests solely with the contractor’s/subcontractor’s competent person. However, the decision to remove a lock may be overridden by the Area EH&S Manager, if deemed necessary.
1.9. Excavations Policy

Introduction

The intent of this policy is to limit and/or eliminate the dangers associated with excavation and trenching operations that could expose tradespersons to the possibility of severe injury or death. Each contractor/subcontractor working on a Whiting-Turner project will comply with 29 CFR 1926, Construction Industry Regulations, Subpart P – Excavations, in addition to the following guidelines.

Procedures

Prior to the commencement of excavation activities where the excavation will be greater than three (3) feet in depth, a pre-excitation checklist must be completed by the contractor’s/subcontractor’s competent person and submitted to Whiting-Turner.

Specific excavation requirements.

- A comprehensive training program in the recognition, identification, evaluation, and control of excavation hazards must be provided to all tradespersons prior to working in an excavation or trenching operation. This must also include a review of the geotechnical report.
- Underground utility installations must be identified and marked prior to beginning any excavation. To prevent unintentional contact, all necessary measures must be employed to locate underground utilities prior to excavating. Acceptable methods include but are not limited to the following: test pitting, ground penetrating radar (GPR), use of as-built drawings and any other obtainable information.
- When an excavation is performed within 3 feet of any utility line, a non-damaging method of excavation shall be used. The non-damaging method shall be hand digging with nonconductive tools. Other non-damaging methods, such as soft digging, vacuum digging, pneumatic hand tools, may be considered subject to approval by the competent person.
- A competent person must be identified on Whiting-Turner’s competent person acknowledgment form and their qualifications submitted to Whiting-Turner prior to the start of work.
- The competent person will be on-site during all excavation work to determine the soil type and its stability by performing one visual and one manual test in accordance with 29 CFR 1926, Subpart P Appendix A.
- Inspections must be conducted daily and after every rainstorm or other hazard-increasing occurrence. Daily inspection reports must be submitted to Whiting-Turner upon request.
- All trenches, unless otherwise specified, shall be protected by snow fence, at a minimum.

Requirements for protective systems.
• Excavations greater than 5 feet in depth must be protected by one or more of the following systems:
  o Sloping / benching of sides to allowable configurations and slopes as per soil type.
  o Shielding (i.e. trench boxes) or shoring which shall have the manufacturer’s tabulated data and specifications—or a professional engineer stamp—and current annual inspection documentation; all the aforementioned must be on site.
  o Using a slope or shield system designed by a registered professional engineer. Refer to 29 CFR Subpart P, Appendix B.
• Temporary and permanent spoils shall not exceed the angle of repose and shall be kept back at least two feet from the edge of an excavation.
• A registered professional engineer must design sloping or benching systems for excavations greater than 20 feet in depth.

Requirements for fall protection.
• Persons walking or working adjacent to a trench with vertical/shear walls that is equal to or greater than six (6) feet in depth must be protected from fall hazards unless it has been determined by the contractor’s/subcontractor’s competent person that it is infeasible or creates a greater hazard.
• Person crossing an excavation that is equal to or greater than six (6) feet in depth must be protected from fall hazards by means of a guardrail system.

Training Requirements
• Each employee affected by the excavation and trenching systems must be trained in the procedures specific to the project, i.e. access / egress points, location of utilities, etc.
• Each affected employee must be trained in all sloping, benching, and shoring procedures prior to entering the excavation or trench.
• A competent person must be on-site throughout the excavation and/or trenching operation to determine soil type through visual or manual testing, hazard identification, effectiveness of sloping, benching, or shoring procedures, etc.
• Atmospheric monitoring, if deemed necessary by the competent person or other competent party, must be documented, and conducted by someone trained in the use of atmospheric monitoring equipment.
1.10. Fall Protection and Prevention Policy

Introduction

Falls continue to be the leading cause of fatalities in the construction industry; in consequence, Whiting-Turner has zero tolerance for failure to comply with all provisions of our fall protection and prevention policy. Any tradespersons found violating said policy must be retrained. In addition, at the discretion of Whiting-Turner personnel, violators may be permanently removed from the project. Any contractor/subcontractor with any fall exposure must submit to Whiting-Turner the resume of their competent person trained in fall protection techniques. All Whiting-Turner employees and all contractor/subcontractor employees working on a Whiting-Turner project shall comply with 29 CFR 1926, Construction Industry Regulations, Subpart M - Fall Protection, in addition to the following guidelines.

Procedures

General fall protection requirements.

- Each contractor/subcontractor, with employees exposed to a fall greater than 6’, must submit a fall protection plan to Whiting-Turner prior to beginning work on site.
- At no time shall a safety monitor system be used as a sole means of fall protection.
- The use of warning line systems as a method of fall protection and prevention is prohibited on Whiting-Turner projects.
- The use of controlled access zones (CAZ) and controlled decking zones (CDZ) are prohibited on Whiting-Turner projects. Restricted access zones may be established.
- A formal documented audit of all guardrail and falling object protection systems must be conducted by the Whiting-Turner Superintendent or designee twice a day.
- A Personal Fall Arrest System (PFAS) [comprised of a full body harness, double lanyards with single D-ring connection point, anchorage point and anchorage connector], a guardrail and/or safety net system must be in place to protect all employees working at or above 6 feet.
- Employees must be protected from falling objects by the installation of toe boards, barricades, or canopy structures.
- Employees working on ladders must be at least one and a half times the height of the ladder away from any perimeter, shaft, stairway, and opening where the fall distance exceeds 6’. If that distance is not feasible, a conventional fall protection method must be employed.
- Stilts are only permitted in broom swept areas, where there is no change in elevation.

Floor and wall holes and openings.

- Prior to creating a hole or opening in any elevated work surfaces, contractors/subcontractors must submit an elevated work surface modification permit.
- All floor and roof openings into which persons can accidentally walk or fall through shall be guarded by a physical barrier or covered.
- All floor and roof holes through which equipment, materials, or debris can fall shall be covered.
All floor holes greater than 12” x 12” must have a Whiting-Turner floor hole cover sign in place.

Coverings for floor and roof openings shall be of sufficient strength to support two times the maximum intended load that may be imposed and shall be secured in place to prevent accidental removal or displacement.

Conduits, trenches, and manhole covers and their supports, when exposed to vehicles or equipment, shall be designed to carry a truck rear axle load of two times the maximum anticipated load.

Particle board, medium density fiber board (MDF) or similar material is prohibited from being used as a floor hole covers on Whiting-Turner projects.

Wall openings 18” or greater in width from which there is a drop of 6’ feet or greater and the bottom of the opening is less than 39” above the working surface, shall be guarded with a top rail or a top rail and intermediate rail or a standard guardrail. A toe board or enclosing screen shall be provided where the bottom of the wall opening, regardless of width, is less than 3 ½ inches above the working surface.

Wall opening protection shall meet one of the following requirements:
  o Barriers of such construction and mounting that, when in place at the opening, the barrier can withstand a load of at least 200 pounds applied in any direction (except upward) with a minimum of deflection at any point on the top rail or corresponding member.

A hinged floor-opening cover shall guard every hatchway and chute floor opening. The opening shall be barricaded with railings to leave only one exposed side. The exposed side shall be provided either with a swinging gate or so offset that a person cannot walk into the opening.

An extension platform outside a wall opening onto which materials can be hoisted for handling shall have a standard railing that meets handrail standards. However, one side of an extension platform may have removable railings to facilitate handling materials.

Fall protection systems.

  • Guardrail Systems
    o The top rail height of a guardrail system must be 42”, + or – 3”. Midrail heights must be half of that distance.
    o Perimeter cable shall not be less than 3/8” steel cable.
    o Corner uprights must be braced so that the required tension may be maintained.
    o The cable must be terminated with three U-bolt wire rope clips that maintain an efficiency rating of at least 80% of the wire rope’s breaking strength as proven through product documentation (e.g. Crosby clips).
    o The U-bolt clips must have the U-bolt section on the dead or short end of the rope and the saddle on the live or running end of the rope.
    o The use of any combination of hook turnbuckles as part of the perimeter cable system is prohibited.
    o A Personal Fall Arrest System (PFAS) must not be attached to a guardrail system unless a registered professional engineer designs the system to accommodate the PFAS; documentation of that design must be maintained on site.
Guardrail systems must be able to withstand a force of 200 lbs. in all directions, without failure, and be smooth surfaced to prevent hand injuries.

The contractor/subcontractor installing the perimeter cable guardrail system shall submit a design with details on how the system will be installed and maintained.

All guardrail systems [with the exception of scaffolds systems or where it can be proven to create a greater hazard] must be equipped with orange perimeter screening or mesh to prevent the ability to breach the system by climbing through rails. The installation of the screening must be compliant with Whiting-Turner’s orange perimeter screening guidelines. The orange perimeter screening policy satisfies the requirement of flagging a wire rope guardrail system every 6’ for high visibility.

- **Personal Fall Arrest Systems and Fall Restraint Systems**
  - A PFAS must be used when working from suspended scaffolds, when breaching any guardrail systems, and when working near unprotected floor openings and perimeter edges.
  - A fall restraint system must be employed when working from articulating boom man lifts and must also be employed when working from a scissor lift.
  - A competent person must assure that fall distance calculations have been evaluated in each circumstance where a PFAS is used.
  - A PFAS is not required when climbing up or down a ladder. Fall protection shall be considered by the competent person if employees work from a ladder 6’ or more above a lower level and are exposed to a fall.
  - Employees must use positive fall protection devices when working in proximity to any leading edge.
  - Retractable lanyards must incorporate either a 3/16” steel wire cable or a nylon strap with a minimum width of 1”.
  - All anchorage points utilized in a personal fall arrest system must be capable of supporting a load of no less than 5000 lbs.
  - Steel erectors and metal decking installers shall utilize 100% fall protection devices at all times when working at 6’ or above.
  - Horizontal lifelines must be designed by a registered engineer and installed under the supervision of a qualified person. A safety factor of two must be maintained.
  - Adequate fall protection devices must be provided, installed, and used at all loading platforms by the contractor/subcontractor wishing to remove existing perimeter protection prior to its removal.
  - A rescue plan must be provided.

**Training Requirements**

- Each employee exposed to a fall hazard must be trained by a competent person in the recognition and avoidance of such a hazard. Proof of training shall be made available to Whiting-Turner upon request.
• Specific training includes, but is not limited to the following:
  o The type of fall exposures expected
  o The correct procedures for erecting, maintaining, dismantling, and inspecting of any fall protection system used by the employee

• When employee lacks the understanding and demonstrative skill required for the proper application of fall protection systems, the employer shall provide retraining of such employee(s).

• Retraining documentation—to include instructor’s name and qualifications, training literature and sign-in sheet—must be submitted to Whiting-Turner on company letterhead.
1.11. Fire Protection and Prevention

Introduction

Each contractor/subcontractor working on a Whiting-Turner project must comply with 29 CFR 1926, Construction Industry Regulations, Subpart F – Fire Protection and Prevention, in addition to the following guidelines.

Procedures

General requirements.

- A site-specific fire protection and prevention plan shall be developed at each Whiting-Turner project.
- Client requirements permit procedures, fire watches, shields and blankets must be considered when developing site-specific fire prevention programs.
- All firefighting equipment must be clearly visible and access to the equipment must be maintained at all times.
- A 20 lb. ABC dry chemical fire extinguisher or equivalent must be provided for each 3,000 square feet of protected building area. An extinguisher shall be placed at every stairwell on each level.
- Travel distance to a fire extinguisher shall not exceed 100 feet.
- Each portable fire extinguisher shall undergo an annual certification & have an inspection tag affixed. These services shall be performed by qualified, authorized, certified and actively licensed fire extinguisher companies.
- Portable fire extinguishers must be inspected monthly. The documentation must be a weather resistant tag attached to the extinguisher. A fire extinguisher log is recommended for back-up.
- Residential-like wood framing construction shall have a 20 lb. ABC dry chemical fire extinguisher or equivalent for each 1,500 square feet of protected building area. An extinguisher shall be placed at every stairwell on each level.
- A standpipe, whether temporary or permanent, shall be installed and active as soon as combustibles are present in a structure with a roof.

Fire prevention.

- Temporary offices or trailers, when located inside of a building under construction, must be constructed of fire retardant materials.
- Combustible materials, such as cardboard, wooden pallets, etc., must be removed from the work area immediately.

Flammable liquids.

- All storage, handling or use of flammable liquids shall be under the supervision of qualified persons.
- All sources of ignition shall be prohibited in areas where flammable liquids are stored, handled, and processed. Suitable NO SMOKING OR OPEN FLAMES signs shall be posted in all such areas.
• Flammable liquids shall not be stored in areas used for exits, stairways or used for safe passage of people.
• Dispensing systems shall be electrically bonded and grounded.
• Above ground storage tanks shall be double-walled or provided with a secondary means of containment. Secondary containment shall have a capacity at least equal in volume to that of the largest tank plus 10 percent of all other tanks enclosed. Provision shall be made for draining off accumulations of ground or rainwater or spills. Drain plugs shall remain in place except when draining.
• A metal cabinet meeting the requirements of NFPA 30, Flammable and Combustible Liquids, shall be provided for the storage of more than a total of 25 gallons of flammable liquids and greases in buildings used for other than storage or processing. Not more than a total of 60 gallons shall be stored in any one cabinet. Individual containers must be metal, kept tightly closed, and shall not exceed five (5) gallons capacity.
• Smoking or open flames within 50 feet of where flammables are being used or transferred or where equipment is being fueled is prohibited.
• Areas in which flammable liquids are transferred, in quantities greater than 5 gallons from one tank or container to another tank or container, shall be separated from other operations by 20 feet or by a five-foot partition, having a fire resistance of at least one hour. Drainage or other means shall be provided to control spills. Natural or mechanical ventilation shall be provided to maintain the concentration of flammable vapor at or below 10 percent of the lower flammable limit.
• Workers shall be required to guard carefully against any part of their clothing becoming contaminated with flammable liquids. They shall not be allowed to continue work when their clothing becomes contaminated and must remove or wet down the clothing as soon as possible.
• Equipment using flammable liquid fuel shall be shut down during refueling, servicing or maintenance.
• Where an automatic extinguishing system is provided, the system shall be designed and installed in accordance with NFPA recommendations.
• In every inside storage room there shall be maintained one clear aisle at least three feet wide.
• Outdoor portable tanks shall be at least 20 feet from buildings. Individual tanks shall be at least 5 feet apart.
• The dispensing units shall be protected against collision damage.
• Handling of all flammable liquids by hand shall be in safety containers with flame arresters. This requirement shall not apply to those flammable liquid materials that are extremely hard to pour, that may be handled in original shipping containers. For quantities of one gallon or less, only the original container or approved metal safety cans shall be used for storage, use and handling of flammable liquids.
• **Storage of flammable/combustible liquids on or inside of buildings under construction shall be no more than one-day supply.**

**Paints and painting.**
• Packages containing paints, varnishes, lacquers, thinners, or other volatile painting materials shall be kept tightly closed when not in use and shall be stored in accordance with NFPA recommendations.
• Paint materials in quantities other than required for one day’s use shall not be stored in buildings under construction.
• Unopened containers of paint, varnishes, lacquers, thinners, and other flammable paint materials shall be kept in a well-ventilated location, free of excessive heat, smoke, sparks, flame, or direct rays of the sun.
• Paint-soiled clothing and drop cloths, when not in use, shall not be stored on site.
• Paint scraping, and paint-saturated debris shall be removed daily from the premises.
• Ventilation adequate to prevent the accumulation of flammable vapors to hazardous levels shall be provided in all areas where painting is done, or paints are mixed.

**Liquid petroleum gases.**
  • Storage, handling, installation and use of liquefied petroleum gases and systems shall be in accordance with NFPA 58. LP gas shall not be stored indoors.
  • Liquefied petroleum gas containers and equipment shall not be used in unventilated spaces below grade in pits, below decks and other such spaces where dangerous accumulations of heavier-than-air gas may accumulate due to leaks or equipment failure.
  • Equipment using liquefied petroleum gas shall be shut down during refueling operations.
  • Polyvinyl chloride and aluminum tubing shall not be used in LP gas systems.
  • Every container and every vaporizer shall be provided with one or more safety relief valves or devices. These valves shall be arranged to afford free vent to the outer air with discharge not less than five (5) feet horizontally away from any opening into a building which is below such discharge.
  • Each system shall have containers, valves, connectors, manifold valve assemblies and regulators of an approved type.
  • Connections to containers, except safety relief connections, liquid level gauging devices and plugged opening shall have shut-off valves located as close to the container as practical.
  • Shut-off valves shall not be installed between the safety relief device and the container, or the equipment or piping to which the safety relief device is connected, except that a shut-off valve may be used where the arrangement of the valve is such that full required capacity flow through the safety relief device is always afforded.
  • Filling of fuel containers for motor vehicles from bulk storage containers shall be performed not less than 10 feet from the nearest masonry-walled building, or not less than 25 feet from the nearest building or other construction and, in any event, not less than 25 feet from any building opening.
  • Filling of portable containers or containers mounted on skids from storage containers shall be performed no less than 50 feet from the nearest building.

**Gasoline power.**

Most construction sites have gasoline equipment and thus introduce the hazard of potential fire and dangerous fumes.
• Fire
  o Only approved containers are allowed for the storage of flammable liquids. An approved container is one which is constructed of metal, has a spring-loaded top that allows venting of fumes and contains a flash arresting screen and spout cover.
  o Provide a 20-pound ABC dry chemical type extinguisher between 25’-75’ from area where flammable liquids are being handled
  o “No Smoking” and “No Open Flame” signs must be conspicuously posted in service, refueling, or flammable liquid storage areas.
  o All drums shall be properly labeled in accordance with 29 CFR 1910.1200 Hazard Communication.

• Fumes
  o Gas engines exhaust carbon dioxide and carbon monoxide. Dioxide is heavier than air; monoxide slightly lighter. A mixture of the gases usually is heavier than air although heat may cause it to rise. Both are without color, taste or smell. Light concentrations cause headache and nausea. Death is swift in heavy concentrations. A few minutes may be too long. Do not discount this hazard. If anyone exhibits symptoms, do not attempt rescue without proper personal protection equipment.
  o Do not run gas engines in pits, manholes or confined spaces.
  o If gas engines are to be used inside buildings, excavations, crawl spaces under basement floors, hoist engineers’ shanties, then the following must be done:
    1. Ventilation shall be required
    2. Testing the space for carbon monoxide shall be done before starting the engines
    3. Continuous monitoring

Temporary heating devices.
• Fresh air must be supplied in quantities sufficient to maintain the health and safety of all employees. If a competent person deems natural airflow inadequate, then mechanical ventilation must be provided.
• Heaters used in the vicinity of tarpaulins, canvas or similar coverings must be located at least 10’ from the covering and be secured to prevent ignition due to wind.
• Open fires are not allowed on Whiting-Turner projects.
• All gas piping shall be labeled and flagged or painted; shutoff valves shall remain in place.

Note: Housekeeping is the best defense against fires. All trash and debris shall be placed in proper containers.
1.12. Hand and Power Tools Policy

Introduction

All Whiting-Turner Employees and Contractors/subcontractors working on a Whiting-Turner project must comply with 29 CFR 1926, Construction Industry Regulations, Subpart I – Tools – Hand and Power, the manufacturer’s safety recommendations, and the following guidelines.

Procedures

General requirements.
- Hand and power tools must be maintained in a safe condition, per manufacturer’s guidelines.
- If the tool is designed to accommodate a guard, the guard must be in place while the tool is being used.
- Tools manufactured with a handle shall be used with the handle in place.
- All two-handed tools must be used with two hands.
- Additional personal protective equipment (PPE), such as a face shield or hearing protection, may be required while operating a tool. If so, they must be in use.
- Any tool guard made inoperable will be grounds for removal from the site.

Hand tools.
- Drift pins, wedges, chisels, and other impact tools must be kept free of mushroomed heads.
- Wrenches must not be issued or used when the jaws are sprung, and slippage is probable.

Electric powered tools.
- All power tools must be double insulated or provided with a three wire, grounded connection.

Pneumatic power tools.
- Each connection on a pneumatic tool and air hose must be secured with a “whip-check” or similar device.
- All air hoses, with an inside diameter exceeding ½ inch, must have a flow reduction device (OSHA valve) at the supply source to reduce pressure in case of hose failure.
- Compressed air must not be used for cleaning unless the pressure is reduced to less than 30 psi and appropriate guarding and PPE are in place.

Fuel powered tools.
- Fuel powered tools must be stopped and turned off while being refueled, serviced, or maintained.

Powder-actuated tools.
- The manufacturer, or a representative thereof, must train employees in the safe use of powder-actuated tools.
- The tool must be tested each day, according to manufacturer’s recommendations, before loading to see that safety devices are in proper working condition.
- Tools must not be loaded until just prior to the intended firing time.
- Loaded tools must not be left unattended.
- All tools must be used with the correct shield, guard or attachment recommended by the manufacturer.
- Unspent shots must be disposed of according to the manufacturer’s recommendation.

**Abrasive wheels and tools.**
- The RPM rating on all grinding machine motors must not exceed the speed rating of the grinding wheel attachment.
- The grinding wheel shall be compatible with the grinder for which it is being used (i.e. proper size and type).
- All abrasive wheels must be closely inspected, and ring tested before mounting to ensure they are free from cracks or defects.
- The gap between the work rest and abrasive wheel of a bench or floor mounted grinder must not exceed 1/8’ inch.
- Proper wheel selection is required and is contingent upon the intended work activity.

**Woodworking tools.**
- All fixed, power driven woodworking tools must be equipped with a disconnect switch that can be locked out in the off position.
- All portable, power driven circular saws must be equipped with guards above and below the base plate or shoe.
- When the tool is withdrawn from the wood, the lower guard must automatically and instantly return to the covering position.
1.13. Hearing Conservation

Introduction

Whiting-Turner recognizes that excessive noise can cause permanent hearing loss if appropriate administrative or engineering controls or personal protective equipment is not used. Limiting exposure to excessive noise through engineering controls is Whiting-Turner’s preferred method of control.

Procedures
Permissible Noise Exposures

<table>
<thead>
<tr>
<th>Duration per day, hours</th>
<th>Sound level dba, slow response</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>90</td>
</tr>
<tr>
<td>6</td>
<td>92</td>
</tr>
<tr>
<td>4</td>
<td>95</td>
</tr>
<tr>
<td>3</td>
<td>97</td>
</tr>
<tr>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>1 ½</td>
<td>102</td>
</tr>
<tr>
<td>1</td>
<td>105</td>
</tr>
<tr>
<td>½</td>
<td>110</td>
</tr>
<tr>
<td>¼ or less</td>
<td>115</td>
</tr>
</tbody>
</table>

- Protection against the effects of noise exposure must be provided when the sound levels exceed those shown in the table above. The measurement must be observed on the A-scale of a sound level meter at slow response.

- When employees are subjected to sound levels exceeding those shown above, feasible administrative or engineering controls must be utilized.

- If such controls fail to reduce sound levels within the levels shown above, personal protective equipment must be provided and used to reduce the noise exposure.

- In all cases where the sound levels exceed the values shown in the table above, a continuing, effective hearing conservation program must be administered.

- If the noise levels are determined to cause an 8-hour TWA exposure greater than 85 dba, the contractor/subcontractor must provide a comprehensive hearing conservation program prior to beginning work. At a minimum this program shall include:
  - Noise survey data for typical work they perform.
  - Noise dosimetry data for typical exposures from the work they perform.
  - Training records for employees working on the Whiting-Turner Project.
1.14. Hexavalent Chromium

Introduction

Hexavalent chromium (Cr(VI)) compounds are widely used in the chemical industry as ingredients and catalysts in pigments, metal plating and chemical synthesis. Hexavalent chromium can also be found in the construction industry through welding on stainless steel or on hexavalent chromium painted surfaces. The major health effects include lung cancer, nasal septum, skin ulcerations, and contact dermatitis. The purpose of this policy is to prevent employee exposure to hexavalent chromium compounds during construction activity. Each contractor working on a Whiting-Turner project must comply with 29 CFR §1926.1126, Chromium (VI), in addition to the following guidelines.

Procedures

Permissible exposure limit.
- Since this construction activity is limited to specialty work, Whiting-Turner will direct the Contractor/subcontractor to provide specific Activity Hazard Analysis (AHA) meetings to address potential exposure.
- The Employer must ensure that no employee is exposed to an airborne concentration Cr(VI) in excess of 5 micrograms per cubic meter of air (5 ug/m³) calculated as an 8-hour time-weighted average (TWA).
- Engineering controls are the preferred method to achieve the Permissible Exposure Limit (PEL).

Exposure determination.
- The contractor/subcontractor must determine the 8-hour TWA exposure for each employee exposed to Cr(VI). This may be accomplished using two options; scheduled or performance-oriented monitoring.
- Scheduled Monitoring
  - The contractor/subcontractor must perform initial monitoring to determine the 8-hour TWA for each employee based on a sufficient number of personal breathing zone samples.
  - If the contractor/subcontractor does representative sampling, it must be conducted on the employee(s) expected to receive the highest exposure.
  - If the monitoring indicates that employee exposures are below the action level (1/2 the PEL or 2.5 ug/m³), the employee may discontinue monitoring.
  - If the monitoring indicates that employee exposures are at or above the action level, the contractor/subcontractor must perform periodic monitoring at least every six months.
- Performance-Oriented Monitoring
  - If this option is chosen, the contractor/subcontractor must determine the 8-hour TWA for each employee based on any combination of air monitoring, historical data, or objective data sufficient to accurately characterize employee exposure to Cr(VI).
Methods of compliance.
- As stated previously, engineering and work practice controls must be used to reduce and maintain employee exposure to Cr(VI) to or below the PEL.
- If feasible engineering and work practice controls are insufficient to reduce exposure below the PEL, then respiratory protection must be used.
- The contractor/subcontractor will not be allowed to rotate employees to different jobs to achieve compliance with the PEL.

Respiratory protection.
- Respiratory protection use must comply with Whiting-Turner’s Respiratory Protection Program.
- The contractor/subcontractor must provide respiratory protection in the following circumstances:
  - Periods necessary to install or implement feasible engineering or work practice controls.
  - Work operations where an employer has implemented all feasible engineering and work practice controls and such controls are not sufficient to reduce the PEL.
  - Emergencies

Protective work clothing and equipment.
- Where there may be a hazard to the skin or eyes from exposure to Cr(VI) the contractor/subcontractor must provide, at no cost, protective clothing, or equipment to the employee.
- The contractor/subcontractor must ensure that the employees remove all clothing and equipment that may be contaminated with Cr(VI) when the work is complete or at the end of the shift.
- The contractor/subcontractor must ensure that chromium-contaminated clothing is not removed from the workplace.
- When contaminated protective clothing or equipment is removed for laundering or cleaning, the contractor/subcontractor must ensure that it is stored and transported in impermeable bags or containers.
- The contractor/subcontractor must inform any person who launders or cleans clothing or equipment of the potential effects of exposure to Cr(VI) and that the clothing or equipment should be laundered or cleaned in a manner that minimizes skin or eye contact.

Hygiene areas and practices.
- Where protective clothing and equipment is required, the contractor/subcontractor must provide change rooms that comply with 29 CFR 1926.51.
- Where skin contact may occur, the contractor/subcontractor must provide hand-washing facilities that comply with the previously noted standard.

Medical surveillance.
• The contractor/subcontractor must make medical surveillance available, at no cost, to employees who meet the following criteria:
  o Those who are or may be occupationally exposed to Cr(VI) at or above the action level for 30 or more days a year
  o Those who are experiencing signs or symptoms of adverse health effects associated with Cr(VI) exposure
  o Those exposed in an emergency

Communication.
• Must follow the same communication of hazardous chemicals highlighted in Whiting-Turner’s Hazard Communication Program.

Recordkeeping.
• The contractor/subcontractor must maintain the following data records:
  o Air monitoring
  o Historical monitoring
  o Objective data
  o Medical surveillance

Roles and Responsibilities

Whiting-Turner management shall
• conduct inspections of the workplace for compliance with this policy,
• discuss policy applications during project orientations and pre-plan meetings with contractors/subcontractors; and
• conduct pre-planning meetings and require the use of Activity Hazard Analysis (AHA).

Contractor/subcontractor management shall
• comply with and furnish materials necessary to meet the requirements of Whiting-Turner’s policy, and
• attend and participate in all project orientations, pre-planning meetings, AHA discussions and PTP meetings.

Contractor/subcontractor employees shall
• attend and participate in all project orientations, pre-planning meetings, AHA discussions and PTP meetings, and
• comply with this policy.
1.15. Housekeeping

Introduction

These requirements apply to all work performed by Whiting-Turner employees, contractors/subcontractors, and vendors. In addition, each contractor working on a Whiting-Turner project will comply with 29 CFR 1926, Construction Industry Regulations, Subpart C – General Safety and Health Provisions.

Procedures

- Work areas and paths of ingress/egress must be kept clear and free of obstructions by material/debris.
  - Clean-as-you-go practices are required.
  - Require contractors/subcontractors to sort and organize material, sweep daily, and standardize activities to aid in the elimination of storage of excess/unused material in active work areas.
  - Materials shall not be stored in a manner that will block, restrict, impede, or prevent access to an egress path or emergency equipment, such as fire extinguishers, emergency eyewash or shower, emergency shutoff buttons or emergency disconnect devices.
  - Stairways shall not be used as storage areas.
  - Work that may temporarily block emergency exits, safety showers, elevators, corridors, and hallways will require prior Whiting-Turner approval.

- Power Cord Management:
  - All cords must be inspected before use.
  - At no time shall cords be strung across exits or in front of emergency equipment.
  - Run cords overhead in a supported fashion with nonconductive material, when feasible.
  - Run cords around perimeters, when feasible.
  - Tape cords down or use cord covers if they present a tripping hazard.
  - Support all cords that run through floors or ceilings with appropriate means.
  - All cords must be stored and put away after use. (i.e. not coiled up on floor).
  - All extension cords must be equipped with GFCI protection or be plugged into an outlet equipped with GFCI protection.
  - If the above listed safety requirements cannot be met, temporary wiring must be installed to facilitate proper cord management.

- Material Storage:
  - Materials stored near the area where work is performed should be limited to only those materials that will be used in the same shift.
  - Any material stored in a work area longer than 24 hours must be approved by Whiting-Turner.
  - Materials must be stacked in a safe and orderly manner.
  - Store all items neatly in cabinets or on shelves.
o Gang boxes, toolboxes, and sea containers/conex boxes shall not have materials stored on top of them.

o If more storage area is needed, contact Whiting-Turner Superintendent.

• Chemical Storage:
  o All chemicals brought on site must have been specified for use on the project.
  o The user of the chemical must provide Whiting-Turner an SDS prior to bringing the substance on site.
  o All chemicals and equipment containing chemicals must be stored in approved areas (i.e. chemical cabinet).
  o Contractors are responsible for removing all unused chemicals from the Whiting-Turner project site at the completion of their contract.
  o All chemical containers must be properly labeled.
  o Chemical/gas cylinders (welding, purging, leak detection cylinders, etc.) must be secured at all times.
  o All dedicated chemical storage areas must have safety data sheets (SDS) available at the storage location.
  o If you are unsure of appropriate storage areas, contact Whiting-Turner Superintendent for direction.

• Material/Waste Disposal:
  o Waste disposal methods shall be specified within each contract/subcontractor’s Activity Hazard Analysis (AHA) and Work task Plan (PTP).
  o All hazardous waste must be disposed of in accordance with Federal, State, and Local regulations and shall comply with applicable Whiting-Turner hazardous waste programs.
  o All hazardous waste must be properly labeled.
  o Hazardous waste materials must be discarded into proper disposal containers
  o Non-hazardous waste must be disposed of into appropriate recycle or disposal containers.
1.16. Materials Handling and Rigging Policy

Introduction

Material handling and rigging incidents account for many tradespersons compensation claims annually. Each contractor working on a Whiting-Turner project must comply with 29 CFR 1926, Construction Industry Regulations, Subpart H – Materials Handling, Storage, Use and Disposal, in addition to the following guidelines.

Procedures

General material storage.
- Aisles and passageways shall be kept clear at all times for the safe movement of material handling equipment and employees.
- Materials shall not be stored within 6’ of any hoist way or interior floor opening.
- Materials shall not be stored within 10’ of an exterior wall which does not extend above the material.

Rigging.
- General Requirements
  - Before each use rigging equipment, including its fastenings and attachments, must be inspected by a competent person/qualified rigger.
  - Inspections must also be conducted during use and where additional service conditions warrant.
  - Defective or damaged slings must be removed from service immediately and destroyed or tagged out of service.
  - Taglines shall be utilized to minimize worker exposure to falling and swinging loads.
- Lifting Chains
  - Alloy steel lifting chains must have a permanently affixed, durable identification tag stating size, grade, rated capacity, and sling manufacturer.
  - Attachments, including, but not limited to hooks, rings, oblong links, pear-shaped links or other welded or mechanical links, must have a rated capacity at least equal to the lifting chain.
  - Job made shop hooks or links, makeshift fasteners formed from rebar or bolts or other such attachments are not allowed on Whiting-Turner projects.
  - Additional lifting chain inspection criteria is based upon the frequency of use, the severity of the service conditions, the nature of the lifts being made, and the experience gained on the service life of slings used in similar circumstances.
  - Lifting chains shall be inspected, prior to each use.
- Wire Rope Slings
  - The manufacturer’s safe working loads must be followed at all times.
- Protruding wire rope must be covered or blunted.
- Wire rope must not be used if, in any length of eight diameters, the total number of visible broken wires exceeds 10% of the total number of wires.
- Wire rope must not be used if it shows signs of excessive wear, corrosion, or defects.
- Slings shall not be shortened with knots, bolts, or other makeshift devices.
- Slings must be protected from sharp edges with padding, softeners, or similar devices.
- Shock loading of a sling is prohibited, and slings must not be pulled from under a load when the load is resting on the sling.

- Synthetic Slings
  - Each synthetic sling must be identified with the name of the manufacturer, rated capacities, and type of material.
  - Nylon and polyester slings must not be used in temperatures greater than 180 degrees Fahrenheit.
  - Synthetic slings must be immediately removed from service if any of the following conditions are present; acid or caustic burns, melting or charring of any of the sling surface, snag, puncture, tear or cut, broken, or worn stitches or distorted fittings.
  - Slings must be protected from sharp edges with padding, softeners, or similar devices.
1.17. Medical Services Staffing Policy

Introduction

Each contractor/subcontractor must have one person on site with a valid certificate in first aid and cardio pulmonary resuscitation (CPR) while actively engaged in work activities. The Whiting-Turner Contracting Company will have, at all times, an individual on site with a valid certificate in first aid and cardio pulmonary resuscitation (CPR).

Procedures

- First aid supplies must be easily accessible; all medication shall be removed from the first aid kit supplied by Whiting-Turner.

- In addition to the first aid kit Whiting-Turner supplies, each contractor’s/subcontractor’s first aid kit must be in compliance with Whiting-Turner’s Bloodborne Pathogen Policy.

- The contents of the first aid kit shall be placed in a weatherproof container with individual sealed packages for each type of item and must be inspected at least weekly.

- Emergency telephone numbers shall be conspicuously posted.

- Where the eyes or body of any person may be exposed to injurious corrosive materials (e.g. during concrete placement), suitable facilities for quick drenching or flushing of the eyes and body must be provided within the work area for immediate emergency use.
1.18. Mobile Elevated Work Platforms

Introduction

Each contractor/subcontractor using an aerial lift on a Whiting-Turner project must comply with 29 CFR §1926.453, in addition to the following guidelines.

Procedures

- Only authorized and trained individuals may operate aerial lifts. Companies will make verification of training available to Whiting-Turner upon request.

- Aerial lifts shall be inspected by the trained operator each day prior to use, in accordance with the manufacturer’s requirements.

- All aerial and scissors lifts shall be tagged according to Whiting-Turner’s scaffold tagging policy.

- Fall protection requirements for aerial lift use shall comply with the manufacturer’s recommendations.

- Employees must use personal fall arrest systems (PFAS) when working from articulating boom platforms.

- All scissors lifts on Whiting-Turner projects shall be equipped with manufactured attachment points and employees must utilize the anchorage point.

- When working from a scissors lift, fall prevention devices, in addition to the guardrail system, shall be used in accordance with the manufacturer’s recommendation.

- Employees must keep both feet on the floor of the basket; use of guardrails to gain additional height is prohibited on Whiting-Turner project sites.

- Where aerial and scissors lifts are used on concrete slabs, any floor depressions or grade changes are required to be barricaded to restrict travel onto that area.

- The area(s) below the basket or platform of aerial lifts shall be cordoned off using reinforced danger tape—or something of equivalent or greater tensile strength—and by using signage to identify the overhead hazard.

- Field modifications are not allowed on aerial lifts. Aerial lifts shall not be used to hoist, raise, or position material outside of the platform or basket unless manufactured to do so.

Introduction

Each contractor/subcontractor working on a Whiting-Turner project will comply with 29 CFR 1926, Construction Industry Regulations, Subpart O – Motor Vehicles, Mechanized Equipment, and Marine Operations in addition to the following guidelines.

Procedures

- Whiting-Turner management and field supervision are not permitted to operate equipment on Whiting-Turner projects.
- All operations requiring the use of heavy equipment will require a pre-planning meeting can be addressed at AHA review to coordinate and prevent injuries to tradespersons and the public.
- All fuel driven equipment being used indoors or in enclosed spaces must have scrubbers where carbon monoxide exposure exists.
- Keys are to be removed at the end of the shift and cab doors locked.
- All material handling equipment, with an obstructed view to the rear, must have a back-up alarm that is functional and distinctly audible.
- A “spotter”, wearing an ANSI approved high visibility traffic vest, may be used in lieu of an alarm, but only if such devices are not routinely supplied on such a vehicle. Vehicles must never back “blind” on a Whiting-Turner project.
- If the competent person determines that the back-up alarm is not sufficient, a spotter must be present to help facilitate the rear operation of the equipment.
- Equipment and dump trucks equipped with faulty back-up alarms shall be taken out of service until back-up alarms are repaired.
- Forklift operator training records must be submitted to Whiting-Turner prior to site use.
- A seatbelt must be provided and used when operating equipment on a Whiting-Turner project.
- All windows must be in full working condition. Any equipment with broken glass of any size, including mirrors will be taken out of service.
- Equipment without a rollover protective structure (ROPS) or seatbelt is not allowed on any Whiting-Turner project unless it was manufactured in such a way and determined to be more hazardous with such protections.
• **Use of cell phones and radios is not permitted while operating machinery.**

• **No one may work within 20’ of motorized equipment like an excavator, backhoe, loader etc. unless that person’s presence is fundamental to the operation underway and the operator can observe the person at all times.**

• **All equipment with a rotating superstructure shall have swing radius protection or a designated spotter.**

**Hoisting personnel.**

• **Personnel hoisting requirements** - The use of load handling equipment to hoist personnel is prohibited unless the employer can demonstrate that other methods would be more hazardous and is able to comply with the personnel hoisting requirements that are established in the standard.

• **Hoisting personnel on Whiting-Turner project sites** shall be done only after review of the plan and deemed feasible by Vice President and the Area EH&S Manager assigned to the project.

• **Hoisting personnel on Whiting-Turner projects** shall be considered a critical lift or activity, and therefore shall meet all requirements of a critical lift before the lift may begin.
1.20. Personal Protective Equipment

Introduction

All Whiting-Turner and contractor/subcontractor employees on Whiting-Turner projects must wear all the personal protective equipment necessary to complete their jobs safely. Mandatory personal protective equipment required on the project site includes, but is not limited to, hardhat, safety glasses, high visibility vests, and sturdy leather work boots. A competent person onsite will determine necessary equipment. Each contractor/subcontractor working on a Whiting-Turner project site will comply with 29 CFR 1926, Construction Industry Regulations, Subpart E – Personal Protective and Lifesaving Equipment; in addition to the following guidelines.

Procedures

- All Whiting-Turner employees, contractor/subcontractor employees and visitors to project sites are required to wear safety glasses that comply with ANSI Z87.1.
  - Dark lenses are not to be worn inside of buildings, in enclosed areas or at night.
  - Tinted lenses must be worn on light colored membrane roofs.
  - Prescription eyeglasses and sunglasses that do not comply with ANSI Z87.1 are prohibited.
  - A pair of fully enclosed safety goggles or face shield is required for operating circular saws, table saws, and grinding concrete.
  - Face shields are required for: welding, burning, and cutting; using abrasive wheels; chop saws; portable grinders or files, chippings concrete, stone, or metal; drilling or working under dusty conditions; using explosive actuated fastening or nailing tools; overhead work; work with hazardous liquids or gases.
  - All face shields must be compatible with a hard hat.

- All Whiting-Turner employees, contractor/subcontractor employees and visitors to project sites are required to wear hardhats that comply with ANSI Z89.1.
  - Aluminum hardhats, and bump caps are not permitted on Whiting-Turner projects.
  - For security and identification purposes, all hardhats shall display the contractor/subcontractor name and/or decal indicating for whom the employee works as well as the employee’s name.
  - Employees exposed to electrical voltages of 600V or greater shall wear hardhats that meet the requirements of ANSI Z89.2 type hardhats.

- All Whiting-Turner employees, contractor/subcontractor employees and visitors to project sites are required to wear substantial leather work boots.
  - Employees working with jackhammers, tampers and similar equipment are required to utilize metatarsal guards over their work boots.

- Where employees are performing work that could potentially cause materials or chemicals to become flying objects such as, but not limited to, chipping, welding, grinding, cutting, and chiseling, they shall utilize a face shield in addition to safety glasses. A face shield shall be worn while using powder-actuated tools.
Where necessary, each employee shall use equipment with filter lenses that have a shade number appropriate for the work being performed for protection from injurious light radiation.

Where employees are performing work that could potentially expose them to harmful chemicals they may be required to utilize safety goggles and/or a face shield. Please refer to manufacturer SDS for specific requirements.

Hand protection is required when employee’s hands are exposed to hazards such as those from skin absorption of harmful substances, cuts or lacerations, abrasions, punctures, chemical burns, thermal burns, and harmful temperature extremes.

Workers exposed to roofing tar must wear long sleeved shirts and gloves. Workers who are directly exposed to hot tar must also wear a full apron and face shield.

Where an employee could be exposed to noise more than 85 dba TWA, their employer shall provide hearing protection which will reduce the noise to an acceptable level. If the noise levels are determined to cause an 8-hour TWA exposure greater than 85 dba, the contractor/subcontractor shall be required to submit a detailed hearing conservation program to Whiting-Turner. This program shall be accepted prior to beginning work.

Personal protective equipment labeled “WT” or Whiting-Turner” is reserved for the use of Whiting-Turner employees only.

Roles and Responsibilities

Whiting-Turner management shall
- conduct hazard assessments to identify specific PPE for specific tasks for Whiting-Turner craft tradespersons and ensure adequate hazard assessments are conducted by the contractors/subcontractors,
- supply necessary PPE and training to staff; and
- monitor the use of PPE by Whiting-Turner staff and contractors/subcontractors.

Contractor/subcontractor management shall
- provide necessary PPE and training,
- monitor use of PPE,
- provide replacement PPE when needed,
- identify any new hazards that would require the use of PPE; and
- be responsible for the assurances of PPE adequacy, maintenance, and sanitation.

Contractor/subcontractor employees shall
- properly use and care for assigned PPE and
- immediately inform supervisor if PPE is damaged or not effective.
1.21. Respiratory Protection

Any contractor/subcontractor with employees who are required to wear respiratory protection must submit their company’s respiratory protection program prior to start of work. Compliance with this requirement applies to filtering face-piece respirators (N95 Respirators) as well.

All programs shall meet or exceed Whiting-Turner policies as well as the most current federal, state, and local regulatory requirements.
1.22. Sanitation Guidelines

Introduction

Each contractor working on a Whiting-Turner project will comply with 29 CFR 1926, Construction Industry Regulations, Subpart D - Occupational Health and Environmental Controls; employers shall establish and maintain basic sanitation provisions for all employees in all places of employment as specified in the following paragraphs.

Procedures

Drinking water supply.

- An adequate supply of drinking water shall be provided; cool water shall be provided during hot weather.
- Only approved potable water systems shall be used for the distribution of drinking water.
- Drinking water shall be dispensed by means that prevent contamination between the consumer and the source.
- Portable drinking water dispensers shall be designed, constructed, and serviced to ensure sanitary conditions; shall be capable of being closed, and shall have a tap.
- Containers shall be clearly marked as “drinking water” and shall not be used for other purposes.
- Water shall not be dipped from containers.
- Fountain dispensers shall have a guarded orifice.
- Use of a common cup (a cup shared by more than one worker) is prohibited without the cup being sanitized between uses.
- Employees shall use cups when drinking from portable water coolers/containers.
- Unused disposable cups shall be kept in sanitary containers and a waste receptacle shall be provided for used cups.

Non-potable water.

- On outlets dispensing non-potable water, signs cautioning that the water is unsafe for drinking, washing, or cooking will be conspicuously posted.
- Cross-connection – open or potential - between a system furnishing potable water and a system furnishing non-potable water is prohibited.

Toilets.

- When sanitary sewers are not available, one of the following facilities, unless prohibited by local codes, shall be provided: chemical toilets, recirculating toilets, or other toilet systems as approved by state/local governments.
- Each toilet facility shall be equipped with a toilet seat and toilet seat cover. Each toilet facility – except those specifically designed and designated for females – shall be equipped with a metal, plastic, or porcelain urinal trough. All shall be provided with an adequate supply of toilet paper and a holder for each seat.
• **Toilet facilities shall be so constructed that the occupants shall be protected against weather and falling objects; all cracks shall be sealed, and the door shall be tight-fitting, self-closing, and capable of being latched.**
• **One toilet facility shall be provided for every ten (10) persons on site.**
• **Separate toilet facilities shall be provided for each sex.**
• **Provisions for routinely servicing and cleaning all toilets and disposing of the sewage shall be established before placing toilet facilities into operation.**
• **Cost shall not be a factor in maintaining toilet facilities.**

**Washing facilities.**

• Washing facilities shall be provided at toilet facilities and as needed to maintain healthful and sanitary conditions. Washing facilities for persons engaged in the application of paints, coatings, herbicides, insecticides, or other operations where contaminants may be harmful shall be at or near the work site and shall be adequate for removal of the harmful substance.

• Each washing facility shall be maintained in a sanitary condition and provided with water (either hot and cold running water or tepid running water), soap, and individual means of drying. However, where it is not practical to provide running water, hand sanitizers may be used as a substitute.

• Whenever employees are required by a standard to shower, showers shall be provided in accordance with the following:
  o One shower shall be provided for every ten employees (or fraction thereof) of each sex who are required to shower during the same shift;
  o Body soap or other appropriate cleansing agent convenient to the shower shall be provided;
  o Showers shall have hot and cold running water feeding a common discharge line; and
  o Employees using showers shall be provided with individual clean towels.

• Whenever employees are required by a standard to wear protective clothing, change rooms with storage facilities for street clothes and separate storage facilities for protective clothing shall be provided.

• Whenever working clothes are provided by an employer and become wet or are washed between shifts, provision shall be made to ensure such clothing is dry before reuse.

**Waste disposal.**

• Receptacles used for decaying or liquid waste material shall be so constructed to prevent leakage and to allow thorough cleaning and sanitary maintenance. These receptacles shall be equipped with a solid tight-fitting cover unless it can be maintained in sanitary condition without a cover.

• Solid and liquid waste shall be removed as often as necessary to maintain a sanitary environment.

**Vermin control.**

• Enclosed workplaces shall be constructed and maintained, as far as practical, to prevent the entrance or harborage of rodents, insects, and other vermin. An effective
extermination program shall be instituted where the presence of such vermin is detected.
1.23. Scaffolds

Introduction

Each contractor/subcontractor working on a Whiting-Turner project will comply with 29 CFR 1926, Construction Industry Regulations, Subpart L – Scaffolds, in addition to the following guidelines.

Procedures

- Scaffolds are required to be designed, erected, and inspected by a competent person in accordance with OSHA 1926 – Subpart L Scaffolding Standards.

- **Whiting-Turner shall not contract for scaffold erection/dismantling services directly.** In addition, each contractor/subcontractor whose employees will need to access the scaffold system for work shall have a competent person present to inspect and sign off on the scaffold prior to the start of work each day.

- **Whiting-Turner may contract directly for stair towers.** A competent person must inspect and sign-off on the stair towers each day prior to the start of work.

- A safety plan written by a competent person for the erection and dismantling of a scaffold must be submitted and accepted before erecting and dismantling a scaffold. The plan shall include configurations, design limitations, diagrams showing points of access and locations of guys, ties, or braces, and fall protection and rescue plans.

- **Employees erecting or dismantling a scaffold are required to utilize appropriate fall protection at heights six (6) feet or above unless proven to be infeasible or more hazardous as determined by their company’s competent person.**

- Base plates/screw jacks and mudsills or other adequate firm foundation are required to be used at all times; except on suspended systems.

- All scaffolds, including carpenters’ bracket scaffolds, over six (6) feet in height shall have guardrails on all open sides, unless otherwise specified by the manufacturer. If guardrails cannot be used on a walking/working platform, contractors/subcontractors are required to use another means to protect employees from a fall.

- Cross-braces are not considered to be an adequate guardrail (fall protection) system and shall not be used as a top or mid rail on Whiting-Turner projects.

- **Contractors shall comply with Whiting-Turner’s scaffold tagging policy.** The scaffold tag system shall be color coded and visible. The competent person shall inspect the scaffolding system before each work shift. The competent person shall sign and date the scaffold tag.
  - Green tags are reserved for complete systems.
- Red tags are reserved for erection/dismantling activities and for scaffolds with deficiencies in the system.
- Yellow tags are reserved for systems that require the use of both PFAS and guardrail systems for incomplete scaffold systems or platforms.

- **Scaffold tags are required at each entry point of the scaffold system.**

- Each contractor/subcontractor using the scaffold system shall have its competent person place a tag at each point of entry for their employees.
  - In the case of stair towers, the responsible party’s competent person shall put the tags in place and inspect the stair towers daily.

- **Fall protection is required when walking/working at six (6) feet or above. A competent person shall determine if it is infeasible to use fall protection devices while erecting/dismantling a scaffold.**

- **A horizontal, diagonal brace shall be in place to prevent the scaffold from wracking.**

- Scaffold working platforms are required to have a fully planked deck (5 planks). Walking platforms for use during the erection/dismantling of a scaffold are required to be at least two (2) planks wide.

- Walking/working surfaces are required to be made of scaffold grade planks. Planking is to be inspected by the competent person erecting the scaffold prior to installation during the scaffold erection. Damaged planks found during the initial inspection and all concurrent inspections are to be immediately removed from service and replaced.

- Walking/working surfaces are required to comply with the following.
  - Planking that does not extend at least six (6) inches past the bearing surface are required to be secured in such a manner to prevent accidental displacement.
  - Planking that is less than ten (10) feet in length is not to extend more than twelve (12) inches past the bearing surface and planking greater than ten (10) feet in length is not to extend past the bearing surface more than eighteen (18) inches without adequate barricades to prevent employees from stepping on the cantilevered end.

- Contractors/subcontractors are to provide a proper and safe access/egress for employees working on a scaffold. Only approved built-in scaffold stairs or ladders are to be used for access and egress while working on scaffolds.

- Contractors/subcontractors are required to load materials (brick, block, stone, etc.) as close to the load bearing surface as possible. Loading in the center of the scaffold bay is not permitted. Scaffolds shall be designed to support 4x the intended load; load capacity ratings shall not be exceeded.

- **Contractors/subcontractors performing work on scaffolding are required to complete a daily scaffold inspection prior to allowing their employees on the scaffold.** The above-
mentioned inspection is required to be completed by an employee competent in scaffold safety.

- Contractors/subcontractors are responsible for training their employees and must submit the training documentation to Whiting-Turner upon request.

- **Scaffold systems 30” or less in width (baker-type scaffolds) are required to have guardrails on all sides unless otherwise specified by manufacturer or local jurisdiction having authority; all wheels are required to be locked when an employee is on the working platform. Outriggers are required when the height of scaffold exceeds 3x the base width or according to the manufacturer’s recommendation, whichever is more stringent. Self-propelling/skateboarding is not permitted.**

- Suspended scaffolds shall be designed, constructed, operated, inspected, tested, and maintained as specified in the operating manual for the device; all operating instructions and design specification shall be submitted to Whiting-Turner prior to installation and a copy shall remain on the jobsite.
1.24. Signs, Signals and Barricades

Introduction

All employees of the Whiting-Turner and its contractors/subcontractors will comply with 29 CFR 1926, Construction Industry Regulations, Subpart G, Signs, Signals and Barricades, at a minimum, in addition to the following.

Procedures

- **At a minimum, each Whiting-Turner project shall have the following signage in place at each entrance to the project site:**
  - Whiting-Turner or “WT” sign, subject to any restrictions and limitations in the construction contract for the project
  - Signage with the project street address
  - Signage warning of an active construction area and admonishing unauthorized personnel to keep out
  - Signage directing all visitors to report to the WT field office
  - Precautionary signage listing the required PPE prior to entering the site
  - Danger signage advising of the hazards or potential hazards on the site

- Required signs will comply with the OSHA standards described in 1926.200.

- Where areas may require additional awareness or present unique danger, the use of warning tape may be necessary.
  - For areas that require additional caution, (e.g. uneven surfaces, wet surfaces) yellow caution tape should be used. Caution tape does not prohibit access.
  - For areas where entry and travel are prohibited, (e.g. areas where fall protection is being erected or areas with overhead work being performed) red danger tape should be used. Danger tape is intended to prohibit access.
  - Caution/danger tape has limitations; therefore, it shall not be used in lieu of physical barricades when an occurrence calls for a physical barricade.
  - The intent of the warning tape is to notify of hazards that may arise during construction activities. Every effort must be made to correct these situations with permanent solutions in a timely fashion.
  - All caution and danger tape used on Whiting-Turner project sites shall be of the reinforced type and shall be supplemented with a tag/label affixed with the responsible party’s name, company, contact number, and potential hazard.

- All flagmen shall be trained on appropriate procedures before controlling traffic, as required by the Manual on Uniform Traffic Control Devices (MUTCD) and any municipal or state guidelines.
• All flagmen shall utilize sign paddles and shall be outfitted with high visibility garments, as required by current ANSI standards. All PPE and traffic control equipment shall be outfitted with reflectorized material for night work as required by current ANSI standards.

• All crane and hoist signals shall comply with applicable ANSI standards.

• All traffic control devices shall comply with the MUTCD and any applicable Municipal or State guidelines.

• All signs shall be secured in such a way that would allow venting in the event of high winds.
1.25. Silica Exposure Control Plan

Exposure to silica can lead to silicosis, a serious and sometimes fatal respiratory disease. Silicosis develops from being exposed to and breathing in silica dust. Excessive amounts of silica dust may be generated during activities such as, but not limited to: sandblasting, rock drilling, roof bolting, foundry work, stonecutting, drilling, quarrying, brick/block/concrete cutting, gunite operations, lead-based paint encapsulate applications, asphalt paving, cement products manufacturing, demolition operations, hammering, and chipping and sweeping concrete or masonry, drywall sanding and concrete saw cutting.

Any contractor/subcontractor with potential exposure is required to submit their company’s Silica Exposure Control Plan to Whiting-Turner prior to start of work. Their plan must be in compliance with the requirements set forth in 29 CFR 1926.1153.

Releases of plumes of silica laden dust are prohibited on Whiting-Turner projects. Observation of such activities will require cessation of the task and a meeting with the creating contractor/subcontractor to determine what engineering or work practices need to be put in place to ensure these releases are reduced and/or eliminated as prescribed in their silica exposure control plan.
1.26. Stairways and Ladders

Introduction

Each contractor working on a Whiting-Turner project will comply with 29 CFR 1926, Construction Industry Regulations, Subpart X – Stairways and Ladders, in addition to the following guidelines.

Procedures

General requirements.

- Two points of access/egress shall be maintained at all times to each level where persons have access and the ability to work. One means of access shall be a stair tower or stairway system.
- A stairway or ladder must be provided at all personnel points of access where there is a break in elevation of 19” or more.
- A double-cleated ladder or two or more separate ladders must be used when ladders are the only means of egress from a working area with 25 or more employees.
- All aluminum and commercially manufactured wooden ladders shall not be used on Whiting-Turner projects.

Stairways.

- When doors from an office or storage trailer open directly onto a stairway, a platform must be provided, and the swing of the door must allow an additional 20” to prevent the door from striking an employee.
- Employees are not allowed to use metal pan stairs unless they have been fitted with wooden filler blocks or poured with concrete.
- Incomplete/unsafe stairways must be physically blocked off to prevent unauthorized use; barricade tape would be an insufficient restrictive method.
- Stairways with four or more risers or rising more than 30”, whichever is less, must have a handrail and a stair rail along each unprotected side or edge.

Ladders.

- All hazards must be evaluated by a competent person when employees are engaged in work from a ladder 6’ or more above an adjacent surface.
- Fall protection shall be considered by the competent person if employees work from a ladder 6’ or more above a lower level and are exposed to a fall.
- Employees working on ladders must be at least one and a half times the height of the ladder away from any perimeter, shaft, stairway, and opening where the fall distance exceeds 6’ without employing additional means of fall protection.
- At a minimum, only Type IA Extra Heavy Duty (300 lb. limit) ladders may be used on Whiting-Turner projects.
- When employees ascend or descend a ladder, they must maintain three-points of contact (e.g. two hands and a foot or two feet and a hand).
- Pull ropes should be placed at all access ladders so employees can safely lift tools or equipment to upper levels.
• Stepladders must be opened fully and set level when in use.
• When ladders are used to access upper landings, the side rails must extend at least 3 feet above the landing and secured from displacement at the bottom and top.
• When ladders are used to access upper landings, a guardrail system/corral shall be placed around the opening through which the ladder is protruding.
• All ladders must be used for the purpose for which they were designed.
• The base of an extension and or straight ladder is to be placed 1 foot horizontal from the face of the surface for every 4 feet vertical.

**Job made ladder requirements.**

- **Job made wooden ladders must meet ANSI ASC A.14.4–2009 specifications.**

**Training.**

- Each employee involved in stair and ladder use must be trained by a competent person in the recognition and avoidance of stair and ladder hazards.
1.27. Steel Erection

Introduction

Each contractor working on a Whiting-Turner project will comply with 29 CFR 1926, Construction Industry Regulations, Subpart R – Steel Erection, in addition to the following. In addition to the items listed in this section, all contractors are to comply with all federal, state, and local requirements and codes including those in other sections of this safety manual, and those imposed by the owner. All contractors shall be required to comply with all parts of these requirements based on their scope of work.

Procedures

This section set forth requirements to protect tradespersons from hazards associated with steel erection activities involved in construction.

Fall protection provided by the steel erector shall remain in the area where steel erection activity has been completed to be used by other trades. Whiting-Turner shall assign the repair and maintenance to another trade however this assignment does not in any way release each contractor of their responsibility to provide and maintain fall protection in their work areas for the protection of their employees and the reinstallation of fall protection devices removed by their employees.

Each contractor has a responsibility to inspect and control fall protection in their work areas based on their scope of work.

Structure steel design.
  • Column anchorage
    o All columns shall be anchored by a minimum of four (4) anchor bolts.
    o When two structural members on opposite sides of a column web, or a beam web over a column, are connected sharing common connection holes, at least one bolt with its wrench-tight nut shall remain connected to the first member unless a shop-attached or field-attached seat or equivalent connection device is supplied with the member to secure the first member and prevent the column from being displaced. If a seat or equivalent device is used, the seat (or device) shall be designed to support the load during the double connection process. It shall be bolted or welded to both a supporting member and the first member before the nuts on the shared bolts are removed to make the double connection.
    o The perimeter columns have holes or other devices in or attached to perimeter columns at 42-45 inches above the finished floor and the midpoint between the finished floor and the top cable to permit installation of perimeter safety cables. Welded nuts are not permitted as part of the perimeter safety fall protection system.

General requirements.
  • Pre-Steel Construction Meeting
o A pre-steel construction meeting shall be held prior to beginning steel erections on our projects. This meeting will be held with all parties involved in steel erection activities including but not limited to the following: steel erector, steel fabricator, owner and/or owner representative and architect and/or structure engineer.

o This pre-construction meeting will address issues and items relating to all activities to steel erection including but not limited to the following:
  1. Adequate access roads shall be provided into and through the site for the safe delivery and movement of derricks, cranes, trucks, other necessary equipment, and the material to be erected and means and methods for pedestrian and vehicular control.
  2. A firm, properly graded, drained area, readily accessible to the work with adequate space for the safe storage of materials and the safe operation of the erector's equipment shall also be provided.
  3. Written notification that the concrete in footings, piers and walls and the mortar in the masonry piers and walls has attained 75 percent of the intended minimum compressive design strength, based on the appropriate ASTM standard test methods performed by Whiting-Turner’s 3rd party testing agency.
  4. Pre-planning steel erection actives to ensure hoisting of structure steel avoid hazards associated with overhead operation.

  • Site specific erection plans are to be posted and must including the following topics:
    o Material deliveries, material staging and storage
    o Coordination with other trades and construction activities.
    o Path for overhead loads
    o Critical lifts, including rigging supplies and equipment.
    o A description of steel erection activities and procedures
    o Stability considerations requiring temporary bracing and guying
    o Erection bridging terminus point
    o Columns and beams connections
    o Decking installation
    o Ornamental and miscellaneous iron.
    o Procedures that will be used to comply with protection from falling objects.
    o Special procedures required for hazardous non-routine tasks.

Repairs and/or modifications.
  • Prior to the erection of a column, Whiting-Turner shall provide written notification to the steel erector if there has been any repair, replacement, or modification of the anchor bolts of that column.
  • Anchor bolts shall not be repaired, replaced or field-modified without the approval of the project structural engineer of record.
  • Columns shall be set on level finished floors, pre-grouted leveling plates, leveling nuts, or shim packs which are adequate to transfer the construction loads.
• The steel erection contractor shall not erect steel until it has received written notification that the concrete in the footings, piers and walls or the mortar in the masonry piers and walls has attained, based on an appropriate ASTM standard test method of field-cured samples, either 75 percent of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection.

**Fall protection.**

• Fall Protection shall be installed and/or used along all edges of structure that are more than six (6) feet in height and shall remain in the area where the steel erection activity has been completed to be used by other trades.

• **All tradespersons, including connectors, engaged in steel erection activities on a walking/working surface with an unprotected side or edge more than six (6) feet above a lower level shall be protected from fall hazards by a conventional fall protection method.**

• All hoisting operations in steel erection shall be pre-planned to ensure that the project requirements are met for employee protection.

• Other construction processes below steel erection are prohibited unless overhead protection for the employees below is provided.

• Full body harnesses are required for fall arrest and these harnesses require daily inspections of this equipment.

• Fall protection is required in baskets of aerial lifts.

• **Roof penetrations are to be made only when equipment is ready to be installed. Later removal of the decking will require the use of an elevated surface modification permit.**

• On multi-story structures, perimeter safety cables shall be installed at the final interior and exterior perimeters of the floors as soon as the metal decking has been installed.

• All materials, equipment, and tools, which are not in use while aloft, shall be secured against accidental displacement.

**Cranes.**

• Each contractor is responsible for complying and providing documentation based on the following requirements and providing a description of the crane selection and placement procedures.

• All operators shall submit to a physical exam prior to beginning work on Whiting-Turner projects.

• A description of the crane and placement procedures shall be submitted in writing to Whiting-Turner prior to delivery of this equipment.

• Each crane shall have a current annual inspection conducted by a third party and document shall be submitted to Whiting-Turner.

• Cranes are to have the following in cab areas; load charts, manufacture manual, fire extinguisher and hand signal poster.

• Operator shall perform daily inspections on the crane that they will operate.

• The operator shall not operate the crane until the counter weight is properly barricaded as per OSHA standards.
• Each contractor is required to inspect the rigging equipment that will be used before each lift, and prior to placing that equipment in service, such as; grab hooks, spreader bars, extension devises, slings, and wire ropes, etc.

**Structural steel erection.**

• Beams and columns
  
  o During the final placing of solid web structural members, the load shall not be released from the hoisting line until the members are secured with at least two bolts per connection, of the same size and strength as shown in the erection drawings, drawn up wrench-tight as specified by the project structural engineer of record.
  
  o A competent person shall determine if more than two bolts are necessary to ensure the stability of cantilevered members; if additional bolts are needed, they shall be installed.
  
  o Solid web structural members used as diagonal bracing shall be secured by at least one bolt per connection drawn up wrench-tight or the equivalent as specified by the project structural engineer of record.

• Hoisting and rigging
  
  o The steel erection contractor shall ensure that all the following provisions are complied with as applicable to hoisting and rigging.
  
  o A competent person shall visually inspect cranes being used in steel erection activities prior to each shift; the inspection shall include observation for deficiencies during operation. At a minimum this inspection shall include the following:
    
    1. All control mechanisms for maladjustments
    2. Control and drive mechanism for excessive wear of components and contamination by lubricants, water, or other foreign matter.
    3. Safety devices, including but not limited to boom angle indicators, boom stops, boom kick out devices, anti-two block devices, and load moment indicators where required.
    4. Air, hydraulic, and other pressurized lines for deterioration or leakage, particularly those that flex in normal operation.
    5. Hooks and latches for deformation, chemical damage, cracks, or wear.
    6. Wire rope reeving for compliance with hoisting equipment manufacturer's specifications.
    7. Electrical apparatus for malfunctioning, signs of excessive deterioration, dirt, or moisture accumulation.
    8. Hydraulic system for proper fluid level
    9. Ground conditions around the hoisting equipment for proper support, including ground settling under and around outriggers, ground water accumulation, or similar conditions.
    10. The hoisting equipment for level position; and the hoisting equipment for level position after each move and setup.
  
  o If any deficiency is identified, the competent person shall make an immediate determination as to whether the deficiency constitutes a hazard.
o If the deficiency is determined to constitute a hazard, the hoisting equipment shall be removed from service until the deficiency has been corrected.

o The operator shall be responsible for those operations under the operator's direct control. Whenever there is any doubt as to safety, the operator shall have the authority to stop and refuse to handle loads until safety has been assured.

o A qualified rigger (a rigger who is also a qualified person) shall inspect the rigging prior to each lift.

o The headache ball, hook or load shall not be used to transport personnel except unless all the OSHA standards are being met to hoist employees on a personnel platform and written approval has been granted by executive management (See Cranes).

o Safety latches on hooks shall not be deactivated or made inoperable.

- Working under loads

  Routes for suspended loads shall be pre-planned to ensure that no employee is required to work directly below a suspended load except for:

  o Employees engaged in the initial connection of the steel; or
  
  o Employees necessary for the hooking or unhooking of the load.

  o When working under suspended loads, the following criteria shall be met:

    1. Materials being hoisted shall be rigged to prevent unintentional displacement;
    
    2. Hooks with self-closing safety latches or their equivalent shall be used to prevent components from slipping out of the hook; and
    
    3. A qualified rigger shall rig all loads

- Structural steel assembly

  o Structural stability shall be maintained during the erection process.

  o The following additional requirements shall apply for multi-story structures:

    1. The permanent floors shall be installed as the erection of structural members progress, and there shall be not more than eight stories between the erection floor and the upper-most permanent floor, except where the structural integrity is maintained because of the design.
    
    2. At no time shall there be more than four floors or 48 feet, whichever is less, of unfinished bolting or welding above the foundation or uppermost permanently secured floor, except where the structural integrity is maintained because of the design.
    
    3. A fully planked or decked floor or nets shall be maintained within two stories or 30 feet, whichever is less, directly under any erection work being performed.

- Plumbing-up

  o The steel erector shall evaluate to determine whether guyng or bracing is needed; if guyng or bracing is needed and if determined, it shall be installed.
o When deemed necessary by a competent person, plumbing-up equipment shall be installed in conjunction with the steel erection process to ensure the stability of the structure.

o When used, plumbing-up equipment shall be in place and properly installed before the structure is loaded with construction material such as loads of joists, bundles of decking or bundles of bridging.

o Plumbing-up equipment shall be removed only with the approval of a competent person.

o Hoisting, landing, and placing of metal decking bundles.

o Bundle packaging and strapping shall not be used for hoisting unless specifically designed for that purpose.

o If loose items such as dunnage, flashing, or other materials are placed on the top of metal decking bundles to be hoisted, such items shall be secured to the bundles.

o Bundles of metal decking on joists shall be landed in accordance with OSHA standards.

o Metal decking bundles shall be landed on framing members so that enough support is provided to allow removal of banding without dislodging the bundles from the supports.

o At the end of the shift or when environmental or jobsite conditions require, metal decking shall be secured against displacement.

• Roof and floor holes and opening
  o Metal decking at roof and floor holes and openings shall be installed as follows:
    1. Metal deck openings shall have structural members turned down to allow continuous deck installation except where not allowed by structural design constraints or constructability.
    2. Roof and floor holes and openings shall be decked over. Where large size, configuration or other structural design does not allow openings to be decked over (such as elevator shafts, stair wells, etc.) employees shall be protected in accordance with OSHA standards.
    3. Metal decking holes and openings shall not be cut until immediately prior to being permanently filled with the equipment or structure needed or intended to fulfill its specific use and which meets the strength requirements of this section policy or shall be immediately covered.

• Covering roof and floor openings
  o Covers for roof and floor openings shall be capable of supporting, without failure, twice the weight of the employees, equipment and materials that may be imposed on the cover at any one time.
  o All covers shall be secured when installed to prevent accidental displacement by the wind, equipment, or employees.
  o **All covers shall be labeled with Whiting-Turner’s floor hole signage.**
o Smoke dome or skylight fixtures that have been installed are not considered covers for the purpose of this section unless they meet the strength requirements.

- Decking gaps around columns
  o Wire mesh, exterior plywood, or equivalent, shall be installed around columns where planks or metal decking do not fit tightly.
  o The materials used must be of sufficient strength to provide fall protection for personnel and prevent objects from falling through.

- Installation of metal decking
  o Metal decking shall be laid tightly and immediately secured upon placement to prevent accidental movement or displacement.
  o During initial placement, metal decking panels shall be placed to ensure full support by structural members.

- Erection of steel joists
  o Both sides of the seat of one end of each steel joist that requires bridging under OSHA requirements shall meet those requirements set forth in Tables A and B shall be attached to the support structure before hoisting cables are released.
  o For joists over 60 feet, both ends of the joist shall be attached as specified in the OSHA regulations before the hoisting cables are released.
  o Connections shall be drawn up, wrench tight with 2 bolts minimum before releasing the load.
  o On steel joists that do not require erection bridging under Tables A and B, only one employee shall not be allowed on the joist until all bridging is installed and anchored.
  o Employees shall not be allowed on steel joists where the span of the steel joist is equal to or greater than the span shown in Tables A and B of subpart R.
  o When permanent bridging terminus points cannot be used during erection, additional temporary bridging terminus points are required to provide stability.
  o Bar joists unless specified by the engineer of record shall not be used as fall protection anchorage points.

- Training
  The requirements in this section are mandatory and the contractor shall provide certification for each employee who has received training for performing steel erection operations based upon OSHA standards.

- Competent person
  Each contractor shall list the qualified and competent persons based on OSHA definition and the steel erector shall have a competent person knowledgeable of current
OSHA standards with an OSHA 30-hour certification. This person shall remain on site during the completion of their work activities.

- Fall hazard training
  The contractor shall provide a training program for all employees exposed to fall hazards. The program shall include but not limited to the following training and instructions in the following areas:
  o The recognition and identification of fall hazards in the work area;
  o The use and operation of guardrail systems (including perimeter safety cable systems), personal fall arrest systems, positioning device systems, fall restraint systems, safety net systems, and other protection to be used;
  o The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
  o The procedures to be followed to prevent falls to lower levels and through or into holes and openings in walking/working surfaces and walls; and
  o The fall protection requirements of this subpart.

- Additional training requirements
  In addition to the training requirements above in this section, the contractor shall provide special training to employees engaged in the following activities.
  o Multiple Lift Rigging Procedure - The contractor shall ensure that each employee who performs multiple lift rigging has been provided training in the following areas:
    1. The nature of the hazards associated with multiple lifts; and
    2. The proper procedures and equipment to perform multiple lifts.
  o Connector Procedures - The contractor shall ensure that each connector has been provided training in the following areas:
    1. The nature of the hazards associated with connecting; and
    2. The establishment, access, proper connecting techniques and work practices.
1.28. Temporary Facilities

Introduction

Contractor/subcontractor providing temporary construction buildings, facilities, fencing, and access routes and anchoring systems for temporary structures shall be submitted to Whiting-Turner for review.

Procedures

- The design and construction of temporary structures shall consider the following loadings:
  - Dead and live loads
  - Soil and hydrostatic pressures
  - Wind loads
  - Rain and snow loads
  - Seismic forces

- Trailers and other temporary structures used as field offices, to house personnel, or for storage shall be anchored with rods and cables or by steel straps to ground anchors. The anchor system shall be designed to withstand winds and must meet applicable State or local standards for anchoring mobile trailer homes.

- Fencing and warning signs
  - Temporary project fencing shall be installed per Whiting-Turner’s fencing policy particularly on all projects located in areas of active use by members of the public. More careful consideration will also be given to those areas proximate to family housing areas and/or school facilities.
  - Signs warning of the presence of construction hazards and requiring unauthorized persons to keep out of the construction area shall be posted on the fencing. At the minimum, posting shall be on all fenced sides of the project and spaced one sign every 100 feet.
1.29. Underground Construction, Caissons, Cofferdams and Compressed Air Policy

Introduction

Each contractor working on a Whiting-Turner project will comply with 29 CFR 1926, Construction Industry Regulations, Subpart S — Underground Construction, Caissons, Cofferdams and Compressed Air, in addition to the following guidelines.

Procedures

- The employer must control access to all openings to prevent unauthorized entry underground.

- Unused chutes, manways, or other openings must be tightly covered, bulk headed, or fenced off and must be posted with warning signs stating, “Keep Out”, or similar language.

- The employer must assign and submit the qualifications of the competent person responsible for monitoring the air quality during underground construction.

- The atmosphere in all underground work must be tested as often as necessary to assure that the atmosphere contains at least 19.5% oxygen, but no more than 23.5% oxygen. These tests must be conducted before testing for air contaminants.

- The atmosphere in all underground work must also be tested quantitatively for hazardous materials such as carbon monoxide, nitrogen dioxide, hydrogen sulfide, and other toxic gases, dusts, vapors, mists, and fumes.

- If an IDLH (Immediately Dangerous to Life and Health) atmosphere is present, the caisson then becomes a permit required confined space and exposed/controlling contractor’s Confined Space Entry program is implemented.

- The competent person must keep a daily record of all air quality test results and submit those results to Whiting-Turner, upon request.

- Casing or bracing must support the full depth of the shaft.

- The casing or bracing must extend 42” + or – 3” above ground level. This height may be reduced to 12”, provided a standard railing is installed, the ground surrounding the shaft is sloped away from the shaft and effective barriers are in place to prevent mobile equipment from jumping over the 12” barrier.
1.30. Welding and Cutting Policy

Introduction

All Whiting-Turner employees and all contractor/subcontractor employees working on a Whiting-Turner project must comply with 29 CFR 1926, Construction Industry Regulations, Subpart J – Welding and Cutting, in addition to the following guidelines.

Procedure

- The contractor/subcontractor will assure that adequate precautionary measures have been taken to protect all personnel and property.

- Welders, cutters, and their supervisor shall be trained in the safe operation of their equipment, safe welding/cutting practices, and welding/cutting respiratory and fire protection.

- All contractors performing welding, burning/cutting operations shall submit their planned safety program to the Superintendent prior to the commencement of work.

- Contractors/subcontractors are required to use welding shields between the welding operation and the public/other trades for protection against arc flash.

- All welding lead connection lugs are required to have non-conductive boot covers installed.

- **A Hot Work Permit must be completed daily by each contractor/subcontractor performing all welding, burning/cutting operations.**
  - The hot work permit will designate the location of the operation, date of the operation, type of work to be done and the time commenced and completed.
  - A hot work permit is required to be submitted by the contractor/subcontractor prior to beginning the hot work activity.
  - The hot work permit shall be conspicuously located near the area where the activity is taking place.
  - Contractors/subcontractors are responsible for providing a fire watch and a charged, 20lb ABC dry chemical fire extinguisher for each welding and burning activity.
  - Other hot work activities besides welding and burning may require the use of a fire watch, as designated by Whiting-Turner.
  - Whiting-Turner life safety fire extinguishers shall not be used for fire watch duties.
  - A fire watch is to be positioned at each location where sparks/slag and/or molten metal can fall/drop/strike combustible material, potentially resulting in a fire.
  - A fire watch is required to remain in place at all times during the hot work activity and for a minimum of one half (1/2) hour after the welding or burning operation has been completed or longer periods of time as determined by the project-specific rules.
- The fire watch is to be replaced by another fire watch if the person needs to leave the area for any reason.
- Additional permits may be required by the local Fire Department and will be at the contractor’s/subcontractor’s expense.
- Copies of these additional permits are to be submitted to Whiting-Turner upon request.
- Upon completion of the work, the completed hot work permit must be returned to Whiting-Turner for file retention.

- Local fire department fire details may be required, and all costs associated with the detail will be the responsibility of the contractor/subcontractor doing the hot work requiring the detail.

- Contractors/subcontractors may be required to provide adequate engineering controls (ventilation and/or smoke eaters) for welding and burning operations.

- Contractors/subcontractors performing welding and/or burning operations may be required to provide air monitoring as outlined in the work task plan.

- All employees engaged in hot work activities shall wear the appropriate personal protective equipment (PPE); shields shall be compatible with a hardhat.

- Oxy-fuel gas welding shall have hoses that are readily distinguishable.

- Welding and cutting systems using cylinder-hose-torch shall have a reverse-flow check valve and a flash arrester.

- Oxygen cylinders in storage shall be separated from fuel gas cylinders or combustible material by 20 feet or by a non-combustible barrier at least five (5) feet high having a fire-resistance rating of at least ½ hour.

- All cylinders shall be considered in storage at the end of each shift; cylinders must have gauges removed and caps in place.

- All compressed gas cylinders shall be secured against displacement.
2. Premobilization Safety Submittals and Ongoing Safety Management

- Each contractor/subcontractor must identify (on the competent person acknowledgement form) and submit the qualifications of a competent person to Whiting-Turner prior to the start of work.

- Contractor/subcontractor shall submit a site-specific safety plan (SSSP) prior to start of work.
  - Activity hazard analyses (AHA) for major phases of work, submitted with company safety program may be accepted in lieu of SSSP—at the discretion of the Whiting-Turner project team.
  - Contractor/subcontractor supervisor is responsible to maintain a copy of these plans at the worksite and review with their employees for each new task or phase.

- Site specific safety data sheets (SDS) and chemical inventories are to be provided to Whiting-Turner prior to start of work.
  - SDS must be submitted for all hazardous chemicals/products to be used on the project.
  - Contractor/subcontractor supervisor is responsible to maintain copies of SDS and chemical inventory at the worksite.
  - Contractor/subcontractor supervisor is responsible for updating Whiting-Turner each time a new chemical is brought on site; the update must be reflected in their SDS binder and chemical inventory list.

- Each contractor/subcontractor is required to designate a site safety representative (SSR). SSR shall be on site at all times and shall have the knowledge and authority of the competent person. SSR shall be able to conduct site walks with Whiting-Turner personnel to ensure the safety of contractor’s/subcontractor’s workers on the project. Manpower totals below include all tiered contractor/subcontractor employees. Proof of training must be submitted prior to mobilization or at orientation. The qualifications for the SSR are as follows:
  - Minimum requirement proof of OSHA 30 hour submitted
  - Equal to or more than 30 workers; Full-time SSR, with no duties other than safety management. Proof of OSHA 30-hour outreach training for construction and qualifications submitted to Whiting-Turner Superintendent for approval.

- Certification for operators of powered industrial trucks and cranes is required to be submitted to the Whiting-Turner Superintendent prior to the operation of said equipment.

- All on site personnel, (contractor/subcontractors, tiered contractors/subcontractors, and their employees) are required to participate in a mandatory safety orientation session prior to commencing with any work on site. Contractor/subcontractor shall provide a translator for any non-English speaking employees during orientation and any job wide meetings/stand-downs. Employees may be asked to attend orientation again for repeat violations or deficiencies.
• Contractor/subcontractor shall conduct weekly safety meetings for all workers (employed or contracted). A Whiting-Turner Superintendent and/or other Whiting-Turner personnel may attend this safety meeting.
  o Provide a legible sign-in sheet and meeting agenda to the Whiting-Turner field office at the conclusion of the meeting.
  o Contractor/subcontractor is also required to submit daily work reports to the Superintendent, on Whiting-Turner’s form.

• In coordination with the contractor’s/subcontractor’s AHA, complete a Pre-task Plan (PTP) at least once per day, per crew/task.
  o PTPs shall be updated as hazards or conditions change. If necessary, a new PTP may be completed and reviews with the crew.
  o Copies of PTP(s) must be submitted to the Whiting-Turner Superintendent upon request.
  o Tasks should be reviewed in the area where work is to be performed, and crew members should be involved in the development of the plan (safety “huddle”).

• Documented pre-shift inspections are to be completed for mobile equipment, heavy equipment, and cranes.
  o Equipment is to be taken out of service for deficiencies noted.
  o These inspections are to be maintained in the work area for review.
3. Compliance Enforcement and Incentive Guidelines

Enforcement Guidelines.

Introduction:
In an effort to ensure compliance with this program and all other established OSHA standards, the Whiting-Turner Contracting Company has established this procedure of compliance enforcement for all contractors/subcontractors. This is established to promote safety excellence and eliminate offenders. This program may be used or may be superseded with more severe discipline based on the degree of the infraction(s). In any case, Whiting-Turner has sole authority in what type of discipline is issued relating to the project, up to and including removal from the project. Contractor/subcontractors are required to provide Whiting-Turner with any written disciplinary notices issued to site employees by their management.

To assist in our efforts to provide a safe work place, the following disciplinary plan shall be used on each Whiting-Turner project.

- **1st infraction:** written warning; coach the employee.
  - **2nd infraction:** written warning and a meeting must be held between the employee, his/her supervisor and the Whiting-Turner Superintendent—or their designee.
    - A copy of the written warning is sent to the employee’s company’s office.
    - A written warning requires the contractor/subcontractor’s supervisor to assure the employee has satisfactorily completed an appropriate training session related to the safety policy violated.
      1. This training must be completed within five (5) working days from issuance of the written warning. Until that training has occurred the employees shall not resume the same work activity.
      2. Proof of training or retraining shall be provided to Whiting-Turner.

- **3rd infraction** the worker is removed from the project, indefinitely.

- If repeat occurrences with other crewmembers are found the supervisor of said crewmembers shall be subject to removal from the project.

- All warnings, verbal or otherwise, shall be documented in a log to be used as a reference point by the project team to track unsafe trends and to act as a tool to enhance safety.

It is the discretion of the Whiting-Turner project team to issue a monetary fine for safety violations. Violation fines may decrease or increase based on severity.

All fines collected shall be added to the project safety incentive program. Fines will be assessed to the employee’s company. In addition to the above, Monthly Payment Applications/Invoices will be reduced for any fines resulting in these violations.
## Fine Schedule

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<thead>
<tr>
<th>Violation</th>
<th>Fine Amount</th>
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<tr>
<td>Failure to wear hard-hat, safety glasses, or other required PPE</td>
<td>$50 per occurrence</td>
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<tr>
<td>Inadequate slope or shoring during trenching / excavation operations</td>
<td>$1000 per occurrence</td>
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<tr>
<td>Removal of safety barricade, guardrail, or other protection and leaving area unattended</td>
<td>$1000 per occurrence</td>
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<tr>
<td>Removal of or failure to provide floor opening protection and/or leaving area unattended (includes manholes)</td>
<td>$1000 per occurrence</td>
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<tr>
<td>Employees not using proper or no fall protection</td>
<td>$1000 per occurrence</td>
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<tr>
<td>Unprotected energized electrical panel</td>
<td>$1000 per occurrence</td>
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<tr>
<td>Failure to protect from impalement hazards</td>
<td>$100 per occurrence</td>
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<tr>
<td>Failure to provide adequate or sufficient employee safety training</td>
<td>$200 per occurrence</td>
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<tr>
<td>Failure to properly store, secure or cap compressed gas cylinders</td>
<td>$500 per occurrence</td>
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<tr>
<td>Fire extinguisher and/or watch not provided for welding or cutting operations</td>
<td>$250 per occurrence</td>
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<tr>
<td>Improper access provided to scaffolding work platform.</td>
<td>$250 per occurrence</td>
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<td>Inadequate housekeeping.</td>
<td>$250 per occurrence</td>
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<tr>
<td>Unsafe or damaged tools and/or power cords.</td>
<td>$250/Immediate Removal</td>
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<tr>
<td>All “non-communication music type” radios on the project.</td>
<td>$250/Immediate Removal</td>
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<tr>
<td>Metal ladders on the project.</td>
<td>$250/Immediate Removal</td>
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<tr>
<td>Failure to safely or properly use scissor and aerial lifts.</td>
<td>$500 per occurrence</td>
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<td>Failure to properly use and/or set up ladders.</td>
<td>$250 per occurrence</td>
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<tr>
<td>Failure to provide ground fault circuit interrupters (GFCI)</td>
<td>$500 per occurrence</td>
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<tr>
<td>Observed littering on the jobsite</td>
<td>$100 per occurrence</td>
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<tr>
<td>Failure to prevent arc welding flash from the public and other trades.</td>
<td>$500 per occurrence</td>
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<tr>
<td>Any non-compliance of Whiting-Turner, federal or state OSHA Standards, and applicable NFPA, ANSI, ASME codes.</td>
<td>Up to $1000 per occurrence</td>
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Safety Incentive Program Guidelines.

Introduction:

The implementation of a project safety incentive program is at the discretion the Whiting-Turner project team. The project’s safety awards and incentives will be based primarily upon the data collected during safety observations. All superintendents, project managers and safety managers are required to perform inspections.

There are two important aspects of safety award programs that need to be kept in mind:
1. Provide safety awards for safe behavior and for activities related to maintaining a safe work environment
2. Make safety awards and incentives significant enough to support compliance but not significant enough to generate false reporting of safety data
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PART 1 – GENERAL INFORMATION

1.01 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 0 and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

This Section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection, and shall be subject to the Construction Manager's approval.

A. Temporary utilities required include, but are not limited to:

Water service and distribution
Temporary electric power and light
Telephone service
Storm and sanitary sewer

B. Temporary construction and support facilities required include, but are not limited to:

Dewatering facilities and drains
Temporary heating, ventilating, humidification, and air conditioning
Field offices and storage facilities
Temporary roads and paving/construction parking/mud/snow and ice clean-up
Sanitary facilities, including drinking water
Temporary enclosures
Hoists and temporary elevator use
Temporary project identification signs and bulletin boards
Waste disposal service and progress cleaning
Construction aids and protection

C. Security and safety facilities required include, but are not limited to:

Temporary fire protection
Barricades, warning signs, lights
Enclosure fence and security maintenance
Environmental protection
Safety requirements
D. Controls

Workday
Lunch wagons
Erosion control
Excavation material
Excavation training
Material inventories
Deliveries

1.03 QUALITY ASSURANCE

A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to:

Municipal and Labor & Industry Building Code requirements
Health and safety regulations
Utility company regulations
Police, Fire Department and Rescue Squad rules
Environmental protection regulations

B. Inspections: Arrange for authorities, having jurisdiction, to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.04 PROJECT CONDITIONS

A. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on the site. They shall be removed, relocated as required by the progress of the work, or directed by the Construction Manager.

B. Existing Utilities and Systems:

1. Existing systems shall be maintained at all times unless approved (48 hrs. notice of shutdown) by Owner. Permanent heating, plumbing and electrical systems shall be activated and maintained during owner occupancy of existing facilities. Facilities shall be maintained at 70°F.

2. Trade Contractors interrupting services due to their construction operations shall provide temporary utility lines, as required, to maintain services.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Provide new materials; if acceptable to the Construction Manager, undamaged, previously used materials in serviceable condition may be used. Provide materials suitable
for the use intended.

B. **Lumber and Plywood:** Comply with requirements in Division-6 Section "Rough Carpentry."

C. **Tarpaulins:** Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride fire retardant tarpaulins.

D. **Water:** Provide potable water approved by local health authorities.

E. **Open-Mesh Fencing:** Provide 11-gauge, galvanized two inch, chain link fabric fencing, six (6) feet high with galvanized steel pipe posts, 1-1/2" I.D. for line posts and 2-1/2" I.D. for corner posts.

2.02 **EQUIPMENT**

A. **General:** Provide new equipment; if acceptable to the Construction Manager, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.

B. **Water Hoses:** Provide 3/4" heavy-duty, abrasion-resistant, flexible rubber hoses 100 ft. long, with pressure rating greater than the maximum pressure of the water distribution system; provide adjustable shut-off nozzles at hose discharge.

C. **Electrical Outlets:** Provide properly configured NEMA polarized outlets to prevent insertion of volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light, for connection of power tools, equipment, and GFI breakers.

D. **Electrical Power Cords:** Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas where construction activities are in progress.

E. **Electrical Welding Outlets:** These will not be provided. Each Trade Contractor will be responsible for his own welding power.

F. **Lamps and Light Fixtures:** Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.

G. **Heating Units:** Provide 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.

H. **Temporary Offices:** Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for normal loading.

I. **Temporary Toilet Units:** Provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustions type, properly vented and fully enclosed with a glass fiber, reinforced polyester shell or similar nonabsorbent material.
J. **First Aid Supplies:** Comply with governing regulations.

K. **Fire Extinguishers:** Provide 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.

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

**PART 3 - EXECUTION/SCOPE RESPONSIBILITIES**

3.01 **INSTALLATION (BY APPLICABLE TRADE CONTRACTORS)**

A. Use qualified personnel for installation of temporary facilities. Location facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.

B. 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.

3.02 **TEMPORARY UTILITY INSTALLATION (BY APPLICABLE TRADE CONTRACTORS)**

A. **General:** Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.

1. Arrange with the company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary services.

2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, each Trade Contractor shall provide trucked-in services at their expense as required to complete their work.

3. Obtain easements to bring temporary utilities to the site, where the Owner's easements cannot be used for that purpose.

**Use Charges:**

Cost or use charges for temporary facilities are to be paid by the Trade Contractor requiring or providing the temporary facility unless noted otherwise.

Owner will pay utility consumption costs during construction for construction activities only.

B. **Water Service:** The Plumbing Contractor shall install water service and distribution
piping of sizes and pressures adequate for construction. Provide 3/4" hose bib termination at each story of construction work, located so that any area of building construction can be reached with a 100 ft. length of hose. Water service may be run from a temporary or permanent source.

1. **Sterilization:** Sterilize temporary water piping prior to use.

2. Protect system from freezing.


4. Owner shall pay for cost of water consumed during construction. Trade Contractor shall take the necessary steps not to be wasteful.

C. **Temporary Electricity Power Service:**

1. After start of work at project site, when requested by the Construction Manager, the Electrical Contractor shall provide a temporary electrical power distribution system sufficient to accommodate temporary lighting and construction operations, including the use of power tools, and start-up of specified building equipment which must be tested, started or placed into use prior to completion of its permanent power connections. Provide 480 volts, 3 phase, 3 wires, 60 hertz and an equipment grounding conductor as well as 120 volts, 1 phase, 15 amperes, 60 hertz for lighting. Provide weatherproof, grounded wiring with overload protection; with direct wired connections, where feasible, and for voltages up to 220/208 volts. Locate multiple outlets for 120 volt power, not less than 4 gang, at each story of construction, spaced so that the entire area of construction can be reached by power tools on a single extension cord of 100' maximum length. Maximum 20 Amp circuit breaker, four (4) receptacles per circuit breaker.

2. The Owner will pay for cost of all electric energy used for construction activities.

3. The Electrical Trade Contractor shall provide and pay for maintenance, servicing, operation, and supervision of lines installed.

4. Provide service with ground fault circuit interrupter feature, as per NEC and OSHA requirements. The Electrical Trade Contractor shall have a cord inspection program in place. He shall maintain the inspection records on site.

5. As permanent power distribution system is accepted as substantially complete, either entire system or usable portions thereof, the Electrical Trade Contractor shall make suitable provisions for temporary use thereof, and remove unused portions of temporary system.

6. If required, provide meters for electrical power.

7. When temporary electrical lines are no longer required, they shall be removed by the Electrical Trade Contractor and any part, or parts, of the grounds or buildings disturbed or damaged shall be brought back to their original condition.

8. Electricity from existing lines may be used at no charge to the Trade Contractor.
Each trade shall provide extension cords from the existing facilities, as required, for the execution of the Work. Electrical power for welding equipment will not be available.

9. The Electrical Trade Contractor shall maintain and operate permanent electrical supply and distribution system until time of final acceptance and transfer of operation to Owner's personnel.

10. The Electrical Trade Contractor shall install switching controls for all lighting which will enable turning off temporary lighting during off-construction hours.

11. Temporary power supplies to the Construction Manager's Office Conference/Office Complex shall be installed with service connection by the Electrical Trade Contractor.

12. The Electrical Trade Contractor will provide power for oil or gas fired temporary heaters, if required by the Construction Manager. It will be connected so that it can remain "live" when the lighting has been turned off.

13. The Electrical Trade Contractor will provide 24-hour temporary power to any heat tape (installed by others) on temporary water and/or fire lines. All temporary heat work will comply with existing OSHA requirements.

14. Construction circuits shall be separate and independent from temporary lighting.

D. Temporary Lighting: Whenever overhead floor of roof deck has been installed, the Electrical Trade Contractor shall provide temporary lighting with local switching.

The Electrical Trade Contractor shall provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight and general lighting as stated below:

1. Provide uniformly spaced general lighting utilizing one (1) 150 watt incandescent lamp equivalent to 1.0 wats/sq. ft. of floor areas (minimum one (1) lamp per room), and one (1) 100 watt lamp per 50' of corridor or per flight of stairs.

2. Limit lighting installations to intensities which will accommodate normal access and workmanship requirements, recognizing that each entity performing work requiring higher intensity lighting will provide supplementary plug in temporary lighting and localized areas where such work is in progress.

3. As permanent lighting system is substantially complete for each story or usable portion thereof, the Electrical Trade Contractor shall make suitable provisions for temporary use thereof and remove unused portions of temporary lighting system.

4. The Electrical Trade Contractor shall maintain and operate permanent lighting system until the time of final acceptance and transfer of operation to Owner's personnel, including turning off lighting during off-construction hours.
5. The Electrical Trade Contractor shall replace bulbs that are burned out or substantially dimmed by substantial hours of use.

6. Special lighting required for construction activities shall be provided by contractor requiring it.

7. The Electrical Trade Contractor shall provide safety lighting in the stairways, hallways, and exterior security lighting (as required) on a 24-hour basis.

8. The Electrical Trade Contractor will provide a termination box in the Trade Contractor's office trailer area for hook-up of the Trade Contractor's trailers. Cost for individual Trade Contractor trailer hook-up will be born by the Trade Contractor requiring this service. Use of electric heaters in those trailers and shanties will not be permitted.

E. Temporary Telephones:

1. Each Trade Contractor shall be responsible for and provide for his own temporary telephone service.

F. Storm Sewers and Drainage:

1. If storm sewers are available, the Sitework Trade Contractor shall provide temporary connections to remove effluent that can be discharged lawfully. If sewers are not available, or cannot be used, Sitework Trade Contractor shall provide drainage ditches, dry wells, stabilization ponds and similar facilities. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, Sitework Trade Contractor provide containers to remove and dispose of effluent off the site in a lawful manner.

2. Filter out excessive amounts of soil, construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways before discharge.

3. Comply with the soil erosion and sedimentation control plan and local authorities having jurisdiction.

3.03 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION (BY APPLICABLE TRADE CONTRACTORS)

A. General:

1. Locate field offices, storage, sanitary facilities and other temporary construction and support facilities for easy access after approval from the Construction Manager.

2. Provide incombustible construction for offices, shops and sheds located within the construction area, or within 30 feet of building lines.

B. Dewatering Facilities and Drains:

1. For temporary drainage and dewatering facilities, and operations not directly associated with construction activities included under individual Sections, comply
with dewatering requirements of applicable Division-2 Sections. Where feasible, utilize the same facilities.

2. The Sitework Trade Contractor shall be responsible to maintain the site, excavations and construction free of water. Review contract scopes for dewatering requirements for each Trade Contractor.

3. Plumbing Trade Contractor shall provide temporary storm water drainage from the building and the Sitework Trade Contractor shall control roof drainage from building on site.

4. Sitework Trade Contractor shall be responsible to drain or pump water and remove debris from the site so as not to delay his continuous work or progress. This shall include operating pumps during second shift in order to facilitate next-day continuation of work.

5. Sitework Trade Contractor shall excavate in a manner that prevents all surface water from flowing into the building area. Sitework Trade Contractor shall be responsible to remove any runoff water or debris which enters the building area.

6. Sitework Trade Contractor shall continue to drain site and remove debris until designed grades are obtained.

7. Upon completion of building foundations, each Trade Contractor shall be responsible to remove water and debris required to complete his work.

C. **Temporary Heating, Ventilating & Air Conditioning:**

1. Temporary heating shall be provided and maintained by the Trade Contractor performing the work if the outside temperature falls below 40°F at anytime during the day or night for all exterior work or work performed prior to the building being generally enclosed by walls and roof.

2. Each Trade Contractor shall furnish temporary heat by acceptable means to provide sufficient heat to maintain a temperature of 55°F, 24 hours a day throughout the entire area of the work for which the Trade Contractor is responsible.

   Except where use of the permanent system is authorized, provide vented, self-contained LP gas or fuel oil heaters with individual space thermostatic control. Use of gasoline-burning space heaters, open flame, or salamander type heating units is prohibited. Temporary heating may not be provided using electrical heating equipment if using electrical power supplied by the Owner.

3. As soon as the building, or portions thereof, is generally enclosed with walls and roof and temporary heat is required for scheduled work, or required to facilitate proper workmanship, and permanent heating system is not yet operable or authorized for use, the Mechanical Trade Contractor shall provide temporary heat or air conditioning service for every entity authorized to do work at the project site. The Mechanical Trade Contractor shall maintain temperatures as indicated by other
Specification Sections for each type of work to be performed. The Construction Manager shall be the sole arbiter of when the building is considered generally enclosed.

4. The Carpentry Trades shall install, maintain, and remove temporary enclosure of windows, doors and roof openings until the permanent materials are in place when such enclosures will result in the building being generally enclosed.

5. After the conditions of construction require continuous 24 hour heat in the building, as determined by the Construction Manager, the Mechanical Trade Contractor shall provide, operate, and maintain temporary radiation or unit heaters to provide required temperatures (minimum 55°F) for the conduct of the work. This service shall be continued until the permanent heating system has been completely installed and is in operation and the buildings of the project completed. The Mechanical Trade Contractor shall furnish and pay for all fuel as required for providing temporary heat and air conditioning after the building is generally enclosed. The Owner shall pay for all fuel costs incurred to operate the permanent HVAC systems for temporary purposes. As permanent heating/cooling system is substantially complete and operational for each story or usable portion thereof, the Mechanical Trade Contractor shall make suitable provisions for use thereof in temporary heating and cooling. The Mechanical Trade Contractor shall maintain and operate permanent system for temporary heating/cooling purposes, including service to occupied areas, if any, until time of final acceptance or transfer of operation to Owner's personnel, for major parts of system if not for entire heating system.

6. All permanent heating and air conditioning equipment used to supply temporary heat and air conditioning shall be completely cleaned and reconditioned by the Mechanical Trade Contractor prior to final acceptance. NOTE: All permanent equipment shall receive required scheduled maintenance while use for temporary service. Radiator traps and valves used in the heating system during the period of its operation to supply temporary heat shall not be reinstalled in the permanent system. Install new disposable filters and clean non-disposable filters prior to final acceptance. Replace significantly worn parts and parts that have been subject to unusual operating conditions.

7. The Mechanical Trade Contractor shall remove all soot, smudges, and other deposits from walls, ceilings, and all exposed surfaces which are the result of the use of any temporary heating equipment including the use of the permanent heating system for temporary heat purposes. Finish work shall not be done until all such surfaces are properly cleaned.

8. Temporary Ventilation: A Trade Contractor requiring ventilation for work shall provide fans or other necessary equipment to condition air, provided prior approval has been obtained from the Construction Manager.

9. Humidification: Where control of ambient humidity is required for proper performance of the work, or for curing/drying of installed work, or for protection of installed work from deterioration due to variations in ambient conditions, each Trade Contractor shall provide his own temporary humidification or dehumidification equipment to maintain the required conditions. Coordinate the use of the equipment with temporary heating to produce the required conditions with a
minimum overall use of energy.

10. Permanent electrical power needed to operate permanent heating system must be provided by the Electrical Trade Contractor in conjunction with building enclosure, or the Electrical Trade Contractor shall furnish adequate temporary power to operate permanent heating system and bear all cost associated to provide that power.

D. Field Offices:

1. Trade Contractors shall provide offices for their own personnel. All type and location of jobsite offices and equipment will be approved by the Construction Manager. Trade Contractor's offices shall be a maximum of 40' in length.

2. Storage and Fabrication Sheds: Each Trade Contractor shall provide storage and fabrication sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces. All steps and platforms connected to shelters must be per OSHA regulations.

3. All offices and sheds must have the Trade Contractor's identification on them.

E. Temporary Roads and Paving, Construction Parking:

1. Sitework Trade Contractor shall construct and maintain temporary roads, to adequately support the indicated loading and to withstand exposure to traffic during the construction period. Locate temporary paving for roads, storage areas and parking where the same permanent facilities will be located.

2. Snow removal will be performed by the Sitework Contractor for access roads and storage areas. Each Trade Contractor shall provide any additional snow removal required to maintain the schedule.

F. Sanitary Facilities:

1. The Construction Manager shall provide temporary toilets. 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 for each facility.

2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit type privies will not be permitted. Provide means of locking facilities when construction is not in progress.

Provide separate facilities or male and female personnel when both sexes are working in any capacity on project site.

Provide one unit for use of Owner representative's office/conference meeting
complex.

3. **Drinking Water Facilities:** Each Trade Contractor shall provide containerized tap-dispenser bottled-water type drinking water units, including paper supply. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45° to 55°F (7° to 13°C).

G. **Temporary Enclosures:**

1. All temporary enclosures required for protection of exterior construction in progress and completed from exposure, bad weather, other construction operations, and similar activities and to maintain the progress schedule, shall be provided by each contractor as necessary to protect their work.

2. Prior to the building being enclosed, all temporary enclosures required for protection of interior construction in progress and completed from exposure, bad weather, other construction operations, and similar activities and to maintain the progress schedule, shall be provided by each contractor as necessary to protect their work.

3. Where heat is needed and the permanent building enclosure is not complete (windows, doors, and roof openings not complete), the Carpentry Contractor shall provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.

4. Install tarpaulins securely with noncombustible wood framing and other materials. Close openings of 25 sq. ft. or less with plywood or similar materials.

5. Each Trade Contractor is required to construct, maintain, and remove dust partitions required to prevent dust from entering adjacent areas.

H. **Temporary Lifts and Hoists:**

1. Each Trade Contractor shall be responsible for their own hoisting.

2. Existing Elevators:
   
   A. N/A

3. New Elevators:
   
   A. N/A

I. **Project Identification and Temporary Signs**

1. The Construction Manager shall prepare project identification and other signs, as approved by the Owner of the size indicated; install signs where indicated to inform the public and persons seeking entrance to the Project. Support on posts or framing of preservative treated wood or steel.
2. Provide on (1) sign erected on the site, where directed, to identify the project. Sign shall include Project name, Owner’s name, Architect’s name, and Construction Manager’s name. Size shall be 4’ x 8’; color and lettering style shall be as designed by the Architect.

3. Engage an experienced sign painter to apply graphics.

4. Temporary Signs: The Construction Manager shall prepare signs to provide directional information to construction personnel and visitors as required by the Construction Manager.

5. The Construction Manager shall erect weathertight bulletin boards adjacent to the office/confrence complex. Size of the boards shall be equivalent to 32 sq. ft., visible area.

J. Waste Disposal Services:

1. The Construction Manager will provide trash collection containers for construction debris, exclusive of masonry, rock, earth, etc., and pay for all debris disposal costs for them. Each Trade Contractor on the project will be required to clean up, and deposit in the dumpster, all debris generated by his trade contract work on a daily basis. This requirement shall be enforced by the Construction Manager and will result in cost assessment against a Trade Contractor who fails to perform daily clean-up. Each Trade Contractor will be responsible for flattening or crushing all trash as necessary when placed into the dumpster. Hazardous material shall not be placed in the collection container.

K. Construction Aids, Protection and Facilities

1. The Carpentry Trades Contractor shall provide temporary ladders, ramps, and walkways required to access upper levels until permanent systems are installed. They shall be installed and maintained throughout the duration of the project and comply with all OSHA requirements. Removal of these shall be by the Carpentry Contractor when requested by the Construction Manager.

2. The Concrete Contractor shall be responsible for providing safety railings around basement area prior to completion of metal deck and slab. Concrete Contractor shall also provide railing around floor opening for floor hatch into basement once concrete has been poured.

3. Each Trade Contractor will be responsible for protecting any floor openings that have been opened for work under his trade.
4. Each Trade Contractor, upon working in any of the area named in the above paragraph, shall remove the safety covering and handrail to perform his work. Upon completion of his work for the day, lunch, or breaks, or any time when the individual Trade Contractor is not working in that opening, the safety covering and handrail must be replaced by the Trade Contractor removing it. At the end of each day, each Trade Contractor will inspect the site and install all safety coverings and handrails. If coverings and handrails are not being reinstalled by Trade Contractors responsible for replacement, then Construction Manager will replace at Trade Contractor’s expense. At the end of the project, or in order to install permanent construction, the Construction Manager shall remove all coverings and handrails.

5. The Carpentry Trades Contractor shall provide safe, temporary stairs, constructed of secure, dimensional lumber, with all railings and closures according to OSHA regulations, until permanent stairs are installed. Temporary stairs must be provided at the point when above grade floors are framed and decked, and require access by trades, in addition to the steel erection crews.

6. The Trade Contractors requiring access to above grade work are responsible for providing ladders, scaffolding and appropriate methods to access their work. Trade Contractors desiring use of in place above grade work platforms must arrange directly with the party that owns the equipment and make all rental and insurance arrangements directly with that party.

7. All work platforms, scaffolding, etc., on the project shall be available for access by the Owner, Architect, Municipal Authority, Test Agency and/or Construction Manager, and these parties shall be insured and held harmless when using these facilities by the Owner of the facility.

8. Each Trade Contractor shall be responsible for maintaining safe walkway and stair traffic areas, using anti-skid methods, routine sweeping, snow, mud and/or ice removal, and any other reasonable method for safe usage.

3.04 SECURITY AND SAFETY FACILITIES INSTALLATION

A. Temporary Fire Safety

1. Shall be maintained in place until permanent fire protection system is available for use. The Fire Protection Trade Contractor shall provide the permanent sprinkler fire protection system for use at the earliest possible date after building enclosure and 55°F temperatures are maintained to protect the building.

2. Until fire protection needs are supplied by permanent facilities, the Construction Manager shall install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 “Standard for Portable Fire Extinguishers.”

3. 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.
4. Store combustible materials in containers in fire-safe locations.

5. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas. Prohibit smoking within the enclosure building.

6. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.

B. Barricades, Warning Signs and Lights: (Protection of Trade Contractors Work)

1. The responsible Trade Contractor shall comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against.

C. Building Security Enclosure and Lockup:

1. Each Trade Contractor shall be responsible for assisting the Construction Manager in maintaining a secure building at all times.

2. Each Trade Contractor is responsible for the secure storage of their own material and equipment on and off the site.

D. Environmental Protection:

1. To the fullest extent permitted by law, the Trade Contractor shall indemnify and hold harmless the Owner and Construction Manager, their employees and agents, from claims, losses, damage, and expenses including, but not limited to, attorney’s fees arising out of performance of the work at it relates to any type of pollution related situations. This would apply to bodily injury, sickness, disease, or death, or to damages or destruction or contamination of tangible property arising out of the acts or omission of the Trade Contractor or the joint negligent acts of the Owner or Construction Manager, or anyone for whose acts the Trade Contractor may be liable.

2. The Construction Manager will designate area available for construction storage.

3. Each Trade Contractor shall provide protection, operate temporary facilities, and conduct construction in ways and methods that comply with all environmental regulations, and minimize the possibility that air, water, and soil become contaminated or polluted as a result of work or storage so supplies and materials, or equipment usage.

4. Each Trade Contractor will designate and train a responsible employee in environmental contamination procedures, including, but not limited to, emergency responses, material and waste inventories, spills and leak precautions and responses, inspections, housekeeping, security, and external factors.

5. Open burning will not be permitted.
E. Safety Requirements

1. All work shall be performed in accordance with rules, regulations, procedures and safe practice and/or OSHA and all other Government agencies having jurisdiction over the project.

2. Safety precautions and programs:
   a. Each container shall be responsible for initiating, maintaining and supervising safety precautions and programs in connection with the work. The name of the safety officer for each contractor shall be provided by the Construction Manager.
   b. All Trade Contractors shall comply with the provisions of the “Specific Safety Requirements of the Construction Safety Act,” the “Occupational Safety and Health Act,” and Federal, State and local requirements.
   c. If a contractor fails to maintain the safety precautions required by law or directed by the Construction Manager, the Construction Manager may take such action as necessary and charge the Trade Contractor for all incurred costs.
   d. The failure of the Construction Manager to take any such action shall not relieve the Trade Contractor of his obligations.
   e. The Trade Contractor individually shall be responsible for the safety, efficiency, and adequacy of his plant, appliances, and methods, and for any damage which may result from their failure or their improper construction, maintenance or operation.
   f. Prior to mobilizing to the job, the Trade Contractor shall submit to the Construction Manager, in writing, a description of his safety program for review and comment. During the conduct of the work, the Trade Contractor shall immediately notify the Construction Manager, in writing, of all accidents and shall submit a written report describing in detail the circumstances of each accident within 24 hours of its occurrence.
   g. All Trade Contractors shall notify the Construction Manager of any flammable, combustible and/or toxic materials intended for use on the project and shall furnish the Construction Manager with literature pertinent to the use and control of all materials, including, but limited to, MSDS sheets.
   h. Each Trade Contractor shall delegate one representative who shall be responsible to maintain all safety requirements of the Trade Contractor, and shall attend all project safety meetings scheduled by the Construction Manager.
   i. Each Trade Contractor shall conduct weekly safety discussions which shall be attended by all employees assigned to this project. A written safety given to the Construction Manager on a weekly basis.
3. Safety of persons and property:

   a. The Trade Contractor shall take all reasonable precautions for the safety or, and shall provide all reasonable protection to prevent damage of loss to:

      1. All employees on the work site and all other persons may be affected thereby.

      2. All the work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody, or control of the Trade Contractor or any of his Subcontractors or Sub-Contractors.

      3. Other property at the site or adjacent thereto, including, but not limited to, trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction and underground property.

   b. The Trade Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority, including the Owner’s department of protective services, bearing on the safety of persons or property or their protection from damage, injury or loss.

   c. The Trade Contractor shall erect and maintain, as required by existing conditions and progress of the work, all reasonable safeguards for safety and protection, from his work, including danger signs and other warnings against hazards. He shall comply with safety regulations and notify the Construction Manager of possible effects on adjacent facilities. If the Trade Contractor fails to so comply, he shall, at the direction of the Construction Manager, remove forces from the project without cost or loss to the Owner or Construction Manager, until he is in compliance.

   d. The Trade Contractor shall promptly remedy all damage or loss to any property caused in whole or in part by the Trade Contractor, his subcontractors, his Sub-subcontractors, or anyone directly employed by any of them, or by anyone for whose acts any of them be liable.

   e. The Trade Contractor shall not load or permit any part of the work to be loaded so as to endanger its integrity and safety.

   f. The use of audio equipment and headsets will not be permitted on the construction site.

4. Emergencies:

   a. In any emergency affecting the safety of persons or property, the Trade Contractor shall act, at his discretion, to prevent threatened damage, injury or loss and shall immediately notify the Construction Manager of such emergency conditions. Any claims made by the Trade Contractor for additional
compensation or extension of time on account of emergency work shall be processed in accordance with the Contract Documents.

5. **Indemnification:**

a. The Trade Contractor shall indemnify and hold harmless the Owner, the Construction Manager, the Architect/Engineer, all municipal authorities, and their agents and employees, from and against all claims, damages, losses, and expenses including, but limited to, attorney’s fees arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury, sickness, disease or death, or to injury to or destruction of tangible property (other work than the work itself) including the loss of use resulting therefrom, and (2) is caused in whole or part by any negligent act or omission of the Trade Contractor, any Subcontractor, anyone directly or indirectly employed by any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

b. In any and all claim against the Owner, the Construction Manager, the Architect/Engineer, or any of their agents or employees, by any employee of the Trade Contractor, and Sub-Contractor, anyone directly or indirectly employed by any of them may be liable, the indemnification obligation under this paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the type of damages, compensation or any Subcontractor under Worker’s Compensation Acts, disability benefit acts or other employee benefit acts.

c. The obligations of the Trade Contractor under this paragraph shall not extend to the liability of the Architect/Engineer or the Construction Manager, his agents or employees arising out of (1) the preparation of approval of maps, drawings, opinions, reports, surveys, design or specifications, or (2) the giving of or failure to give directions or instructions by the Architect/Engineer or the Construction Manager, their agents or employees provided such giving or failure to give is the primary cause of the injury or damage.

d. No provision of this Subparagraph shall give rise to any duties on the part of the Architect or the Construction Manager not otherwise provided for by contract or by law.

e. In the event that any party is requested but refuses to honor the indemnity obligations hereunder, then the party refusing to honor such requests shall, in addition to all other obligations, pay the cost of bringing any such action, including attorney’s fees to the party requesting indemnity.

3.05 **CONTROLS**

A. **Workday:**

1. The workdays for the project are defined as 7:00 a.m. – 4:30 p.m., Monday through Friday, & 7-3:30 Saturday, with lunch period from 12:00 – 12:30 p.m. The progress schedule may require contractors to perform work other than the normal workday.
and in addition to the normal workday, to meet milestones in the progress schedule for the project, or to make up time previously lost to regain the progress schedule requirements or to prevent interruption of the Owner’s ongoing operation.

2. Working times other than the normal workday or in addition to the normal workday, must be arranged in advance with the Construction Manager.

3. Trade Contractors who require additional workday hours to regain work time previously lost to meet the requirements of the project schedule shall be assessed for all costs including Construction Manager supervision and other Trade Contractor cost necessary for the performance of their work.

B. Lunch Wagons:

1. Lunch wagons, catered events of other non-construction related functions shall not be permitted on the project site, except by the written permission of the Owner and Construction Manager.

2. No alcoholic beverages or controlled substances shall be allowed on the project at any time.

C. Erosion Control:

1. The Sitework Trade Contractor shall employ all methods required to comply with Local, State, and Federal requirements to control erosion from the project site, including drainage control ditches, sediment basins, straw bale dykes and silt fencing.

D. Excavation Training:

1. Any Trade Contractor performing excavation shall have an OSHA trained person on site during all excavation operations. This person shall evaluate soil types and conditions to determine the required shoring and excavation methods.

E. Material Inventories:

1. Contractors shall coordinate the delivery and storage on the jobsite of all significant materials

2. Each Trade Contractor shall be responsible for the proper location, secure, and weather resistant storage as required of all materials. This includes placement of materials not to obstruct passage on site or within building structures or in any way which causes impediment or obstruction to other Trade Contractors.

3. All material inventories must be stored by the Trade Contractor to avoid excessive loads on building structure.

4. When directed by the Construction Manager, a Trade Contractor shall remove or relocate material inventories as required for the progress of the project.
F. Deliveries:

1. All contractors are required to properly instruct material suppliers and vendors to address deliveries to them specifically by named responsible party at the jobsite and require advance notice.

2. All deliveries addressed to the project in general, the Owner, Architect or Construction Manager, will be refused and returned to shipper.

3. The Owner will not be responsible for receipt, handing, or loss of any materials which are shipped to the Owner in error and received unknowing of relationship to the project.

4. Contractor receiving materials at the jobsite shall be responsible for prevention of any mud or other deposits on public roadways or other areas outside project limit lines, which may result due to methods of material delivery. Trade Contractor shall instruct delivery conveyor to take appropriate measures to prevent depositing mud or other construction deposits outside contract limit lines. Total responsibility of cleanup of mud or other construction deposit outside of contract limit lines will be the responsibility of the Trade Contractor receiving the delivery.

3.06 OPERATION, TERMINATION AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended use to minimize waste and abuse.

B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour day basis where required to achieve indicated results and to avoid possibility of damage.

2. Protection: Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

C. Termination and Removal: Unless the Construction Manager requests that it be maintained longer, remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility, or not later than Substantial Completion. Complete or, if necessary restore, permanent construction that may have been 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 facilities that constitute temporary facilities are property of the Trade Contractor. The Owner reserves the right to take possession of Project identification signs.
2. The Sitework Trade Contractor shall remove temporary paving that is not intended for or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that does not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt, and other petrochemical compounds, and other substance which might impair growth of plant materials or lawns. Repair or replace street paving, curbs and sidewalks at the temporary entrances, as required by the governing authority.

END OF SECTION
SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 SUMMARY
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section
B. Implement practices and procedures to meet the Project’s environmental performance goals, which include obtaining a LEED® Silver certification based on LEED-Schools v2009 by achieving both of the LEED Materials and Resources points for Construction Waste Management. Ensure that the requirements related to these goals, as defined in this section and throughout the contract documents, are implemented to the fullest extent. Substitutions or other changes to the work proposed by the Contractor or their subcontractors shall not be allowed if such changes compromise LEED Requirements.
C. Section includes administrative and procedural requirements for salvaging, recycling and disposing nonhazardous demolition and construction waste generated during the project.

1.02 RELATED SECTIONS
A. Division One Sections.
   1. Section 01 50 00 Temporary Facilities and Controls
   2. Section 01 81 13 Sustainable Design Requirements
   3. Section 31 20 00 Earthmoving
   4. Section 32 90 00 Plantings

1.03 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.

1.04 PERFORMANCE REQUIREMENTS
A. Achieve end-of-Project rates approved by GBCI for salvage/recycling of 75 percent, minimum, by weight or volume, of total non-hazardous solid waste generated by the Work.
1.05 SUBMITTALS

A. Construction Waste Management (CWM) Plan: Submit CWM plan within 30 days of date established for Notice to Proceed. The Plan shall include, but not be limited to, the following:

1. List of Targeted Materials: Develop a list of the waste materials to be targeted for reuse, salvage, recycling, donation or other method of diversion from landfill disposal. Include expected weights of materials. Account for, at minimum, the following materials:
   a. Beverage containers
   b. Cardboard, paper and/or packaging
   c. Carpet and pad
   d. Clean dimensional wood and/or palette wood
   e. Concrete and/or concrete masonry units (CMU)
   f. Drywall
   g. Glass
   h. Metals from banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass and bronze.
   i. Paint
   j. Plastics
   k. Rigid foam
   l. Excavated soil and land clearing debris do not contribute to this credit.

2. Landfill and/or Incinerator Information: Provide the name and location of the landfill(s) and/or incinerator(s) where trash will be disposed.

3. Recycling or Salvaging Facilities Information: Provide the names and locations of the recycling or salvaging facilities where waste materials will be delivered.

4. Sorting Method: Provide a description of the proposed means of sorting and transporting the recyclable materials (site-sorted and individually-hauled to designated centers, or commingled and sorted off-site by waste haulers).
   a. Site-sorted waste shall be weighed or measured independently to determine the amount of waste generated by the project alone
   b. Commingled waste shall provide a written description of the sorting process used, and methods for calculating project-specific recycling rates. Visual inspection is not an acceptable method for the purposes of documenting percentage of commingled waste diverted from landfill.
   c. If a recycling facility uses an average annual recycling rate to determine the quantity of material that gets recycled, then the facility's method of recording and calculating the recycling rate is only acceptable if it is regulated by a local or state government authority. A copy of the documents confirming regulation by a local or state government authority, indicating the annual recycling rate for the most recently completed full year, is required with 30 days of the Notice to Proceed.

5. Packaging Waste: Note whether suppliers will eliminate or take back packaging for major materials delivered to the site.

6. Contamination Prevention: Include provisions in the CWM Plan for addressing conditions in the field that do not adhere to the Plan, including provisions to rectify non-compliant conditions.

7. Additional Information: Include any additional information deemed relevant to describe the scope and intent of the CWM Plan to the Owner and Architect.
B. LEED Progress Reports: Concurrent with each Application for Payment, submit monthly waste management spreadsheets showing a summary of the percentage of waste diverted from the landfill or incinerator. Include the following records, as applicable to the project and label them to correspond with the report:
1. 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.
2. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
3. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
4. 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.

C. LEED Online Documentation: Within 30 days of Substantial Completion, complete LEED Online credit form and upload all required documentation. End-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work and applicable record documentation will be required.

D. 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.

1.06 QUALITY ASSURANCE

A. Waste Management Coordinator Qualifications: Experienced employee of GC/CM, with a record of successful waste management coordination of Projects with similar requirement.

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. Waste Management Service Company should conduct the meeting and Subcontractors must be present. Issue meeting minutes and copy Owner and Architect. 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.
6. Review recycling process and facilities involved in that recycling process.
1.07 P2 PRODUCTS (NOT USED)

PART 3 EXECUTION

2.01 CWM PLAN IMPLEMENTATION

A. General: Implement approved CWM 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 Section 01 50 00 Temporary Facilities and Controls for operation, termination, and removal requirements.

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 occurring at Project site.
   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 01 50 00 Temporary Facilities and Controls for controlling dust and dirt, environmental protection, and noise control.

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

2.03 RECYCLING DEMOLITION WASTE

A. Asphalitic Concrete Paving:
   1. Grind asphalt to maximum size required by hauler.
B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
   1. Pulverize concrete to maximum size required by hauler.

C. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
   1. Pulverize masonry to maximum size required by hauler.
   2. Clean and stack undamaged, whole masonry units on wood pallets.

D. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.

E. 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.

F. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.

G. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.

H. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.

I. Metal Suspension System: Separate metal members including trim, and other metals from acoustical panels and tile and sort with other metals.

J. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.
   1. Store clean, dry carpet and pad in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.

K. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.

L. Conduit: Reduce conduit to straight lengths and store by type and size.

2.04 RECYCLING CONSTRUCTION WASTE

A. Packaging:
   1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
   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. Site-Clearing Wastes: Chip brush, branches, and trees on-site.

C. 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.

D. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.
1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

2.05 DISPOSAL OF WASTE

   A. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
   B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
   C. Burning: Do not burn waste materials.
   D. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION
SECTION 01 77 00
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
   1. Inspection procedures.
   2. Warranties.
   3. Final cleaning.

B. See Volume I "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.

C. See Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

D. See Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.

E. See Division 1 Section "Demonstration and Training" for requirements for instructing Owner's personnel.

F. See Divisions 2 through 16 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.2 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
   1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
   2. Advise Owner of pending insurance changeover requirements.
   3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
   4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
   6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
8. Complete startup testing of systems.
10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
11. Advise Owner of changeover in heat and other utilities.
12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
13. Complete final cleaning requirements, including touchup painting.
14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. **Inspection:** Submit a written request for inspection for Substantial Completion. On receipt of request, Construction Manager and Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
   1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
   2. Results of completed inspection will form the basis of requirements for Final Completion.

**1.3 FINAL COMPLETION**

**A. Preliminary Procedures:** Before requesting final inspection for determining date of Final Completion, complete the following:
   1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
   2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
   3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
   4. Submit pest-control final inspection report and warranty.
   5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

**B. Inspection:** Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
   1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

**1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)**

**A. Preparation:** Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction.
including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use CSI Form 14.1A or approved comparable form.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.

2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.

1.5 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.

2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.

3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
   a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
   b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
   c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
   d. Remove tools, construction equipment, machinery, and surplus material from Project site.
   e. Remove snow and ice to provide safe access to building.
   f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
   g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
   h. Sweep concrete floors broom clean in unoccupied spaces.
   i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
   j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
   k. Remove labels that are not permanent.
   l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
      1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
   m. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
   n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
   o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
   p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
   q. Leave Project clean and ready for occupancy.

C. **Pest Control:** Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.
D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION
SECTION 01 77 50
CLOSEOUT REQUIREMENTS

1. The following documents are included in this section:
   A. Trade Contractors Partial Release of Lien (to be submitted with each invoice)
   B. Partial Release of Lien – 2nd tier subcontractors and suppliers (to be submitted by every subcontractor and supplier when the contract is 50% billed)
   C. Trade Contractors Final Release of Lien (to be submitted with final invoice)
   D. Final Release of Lien – 2nd tier subcontractors and suppliers (to be submitted by every subcontractor and supplier prior to or with final invoice)
   E. Affidavit Taxes have been paid. (to be submitted prior to or with final invoice)
   F. Guarantee and Warranty (to be submitted prior to or with final invoice)
   G. AIA Document G706, Contractors Affidavit of Payment of Debts and Claims (to be submitted prior to or with final invoice)
   H. AIA Document G706A, Contractors Affidavit of Release of Liens (to be submitted prior to or with final invoice)
   I. AIA Document G707, Consent of Surety to Final Payment (to be submitted prior to or with final invoice)

(ATTACHMENTS FOLLOW)
TRADE CONTRACTOR’S PARTIAL RELEASE,
WAIVER OF LIEN AND AFFIDAVIT

TO: Brandywine School District
1311 Brandywine Boulevard
Wilmington DE 19809

RE: Brandywine School District Contract No.:
CM: Whiting-Turner Contracting Company
PROJECT: Claymont Elem. School Renovations
CURRENT INVOICE NO.: ________
FOR THE PERIOD ENDING: ________

The undersigned Contractor, in consideration of the payments previously made and payment for the period covered by the current invoice set forth above, hereby waives and releases all mechanic’s, materialman’s or other liens and, to the fullest extent permitted by law, all rights to file any such liens in the future, and all claims and demands against Owner, Construction Manager, and the real property on which the project is located, in any manner arising out of work, labor, services, equipment or materials, performed or furnished by Contractor, its subcontractors and suppliers, in connection with the Project and trade contract, through the period covered by the current invoice and all previous invoices. The release does not apply to retention, nor to extra work which Contractor has been authorized to proceed with by the Construction Manager, but for which payment has not yet been approved.

Except as noted below, Contractor acknowledges and represents that for the period and work covered by all previous invoices for which Contractor has received payment:

1. Contractor has paid in full all amounts for subcontracts, labor, materials and rented equipment.
2. Contractor has properly applied previous payments to pay all outstanding invoices related to the Project.
3. Contractor is aware of no claims nor any circumstances that could give rise to any future claims against Owner, Construction Manager, Architect or other Trade Contractor on the Project.
4. All payroll, withholding, sales and other taxes, union benefits, insurance premiums and any other amount required by law, regulation or agreement to be paid in connection with labor, materials, and equipment for the Project have been paid in full.

List exceptions, if any:

Contractor represents that the amounts set forth below are correct and that the amount of the current payment due will be applied promptly to full payment of all outstanding amounts due from Contractor to others in connection with the Project.

Contract Sum to Date $________
Total Completed and Stored to Date $________
Total Retention to Date $________
Total Earned Less Retention $________
Less Previous Payments $________
Current Payment Due $________

BY: ________________________________ (Name of Subcontractor)

BY: ________________________________ (Signature, Printed Name and Title), Duly Authorized Agent of Subcontractor

STATE OF ____________________________
(CITY)(COUNTY)OF ____________________________

On this ______ day of __________, 20____, appeared before me, __________ and he/she made oath in due form of law that the facts, information and representations set forth in the foregoing Trade Contractor’s Partial Release, Waiver of lien and Affidavit, are true and accurate to the best of his/her knowledge, information and belief.

My commission expires: ________________________________

_____________________________ Notary Public
PARTIAL WAIVER AND RELEASE
FOR SECOND TIER SUBCONTRACTORS AND SUPPLIERS

TO: Brandywine School District (Owner) DATE: __________________________

CONSTRUCTION MANAGER: The Whiting-Turner Contracting Co.

PROJECT: Claymont Elementary School Renovations

CONTRACTOR: ________

The undersigned Company, a subcontractor or supplier to the Trade Contractor named above, and hereinafter referred to as the “Company”, in consideration of payments previously received and in consideration of payment for work performed through the current date set forth below, hereby waives and releases all mechanics’, materialman’s, or other liens and, to the fullest extent permitted by law, all rights to file any such liens in the future, and all claims and demands against the Owner, the Construction Manager and the real property on which the Project is located, and any claims arising out of work, labor, services, equipment or materials, performed or furnished by the Company, its subcontractors and suppliers, in connection with the Project, through the period covered by the current invoice.

Except as noted below, the Company further acknowledges and represents that all persons and entities which have provided labor or material, or rented equipment, for or through the Company in connection with the project have been paid in full, for the periods covered by previous payments, that previous payments to the Company have been properly applied to pay all outstanding invoices relating to the Project, that the Company is not aware of any claims, or circumstances which could give rise to future claims, against the Owner, the Construction Manager or the Project, and that all payroll, withholding and other taxes, union benefits, insurance premiums or other amounts required by law, regulation or agreement to be paid in connection with labor for the project have been paid in full through the last date of work covered by the current invoice.

List exceptions, if any:

Last date of work period covered by current Invoice: __________________________

____________________________

(Name of Company)

BY: __________________________ Address: __________________________

Signature, Duly Authorized Agent of Company

____________________________

Printed Name and Title

STATE OF )
(CITY)(COUNTY)OF ) to wit:

On this _______ day of ______________________, ______, appeared before me ______________________ and he/she made oath in due form of law that the facts, information and representations set forth in the foregoing Company’s Partial Waiver and Release, are true and accurate to the best of his/her knowledge, information and belief.

____________________________

My commission expires: __________________________

____________________________

Notary Public

CLOSEOUT REQUIREMENTS

ABHA Architects

01 77 050 - 3

Project No. 1630
TRADE CONTRACTOR’S FINAL RELEASE AND AFFIDAVIT

TO: Brandywine School District  (OWNER )
1311 Brandywine Boulevard
Wilmington, DE 19809

DATE: ______________________

FROM: ___________________________ (Trade Contractor)

DATED: ___________________________

RE: ___________________________________

CONSTRUCTION MANAGER: The Whiting-Turner Contracting Company

PROJECT: Claymont Elementary School Renovations

The undersigned Trade Contractor, in consideration of final payment as set forth herein, hereby waives all mechanic’s liens and rights to file mechanic’s liens and generally releases, and agrees to indemnify and save harmless, the above Owner, the construction manager, their successors and assigns, from all causes of action, suits, debts, contracts, damages, judgments, decrees, claims, demands, liens, rights to assert liens, awards and expenses, including attorneys’ fees, in law, equity or otherwise, which Trade Contractor, its subcontractors and suppliers, their successors and assigns and any persons claiming through them or based upon their acts or omissions ever had, now have or hereafter may have against the above Owner, the construction manager, and any real property or improvements of Owner, from the beginning of the world to the date of this Release, in any manner relating to or arising in connection with the above referenced contract or project.

Trade Contractor represents that the amounts set forth below are correct and that the amount of the current payment due will promptly be applied to full payment of all outstanding amounts due from Trade Contractor to others in connection with the Project.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
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<tbody>
<tr>
<td>Final Contract Amount</td>
<td>$</td>
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<td>Less Previous Payments</td>
<td>$</td>
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<tr>
<td>Final Payment Due</td>
<td>$</td>
</tr>
</tbody>
</table>

I hereby certify, under penalties of perjury, that the information and representations set forth above are true and accurate to the best of my knowledge, information and belief.

______________________________
Trade Contractor

BY: ___________________________ Address: ___________________________

Signature, Duly Authorized Agent of Trade Contractor

______________________________
Printed Name and Title

STATE OF )
(CITY)(COUNTY)OF ) to wit:

On this _____ day of ______________, 20___, appeared before me

and he/she made oath in due form of law that the facts, information and representations set forth in the foregoing Trade Contractor’s Final Release and Affidavit, are true and accurate to the best of his/her knowledge, information and belief.

______________________________
(Notary Public)

My commission expires: ________________________

CLOSEOUT REQUIREMENTS
01 77 050 - 4

ABHA Architects
Project No. 1630
FINIAL WAIVER AND RELEASE
FOR SECOND TIER SUBCONTRACTORS AND SUPPLIERS

OWNER: Brandywine School District
CONSTRUCTION MANAGER: The Whiting-Turner Contracting Co.
PROJECT: Claymont Elementary School Renovations

The undersigned Company, a subcontractor or supplier to the contractor named above, and hereinafter referred to as the “Company”, in consideration of payments previously received and in consideration of final payment set forth below, hereby waives and releases all mechanics’, materialman’s, or other liens and, to the fullest extent permitted by law, all rights to file any such liens in the future, and all claims and demands against the Owner, the Construction Manager and the real property on which the Project is located, and any claims arising out of work, labor, services, equipment or materials, performed or furnished by the Company, its subcontractors and suppliers, in connection with the Project, from the beginning of the world to the date of this Waiver and Release.

Except as noted below, the Company further acknowledges and represents that all persons and entities which have provided labor or material, or rented equipment, for or through the Company in connection with the project have been paid in full, that previous payments to the Company have been properly applied to pay all outstanding invoices relating to the project, that the Company is not aware of any claims, or circumstances which could give rise to future claims, against the Owner, the Construction Manager or the Project, and that all payroll, withholding and other taxes, union benefits, insurance premiums or other amounts required by law, regulation or agreement to be paid in connection with labor for the project have been paid in full.

Final Payment Due: $________________________

(Name of Company)
BY: ________________________________ Address: ________________________________
    Signature, Duly Authorized Agent of Company

STATE OF )
(CITY)(COUNTY)OF ) to wit:
    On this _____ day of ____________________, ____, appeared before me ____________________ and he/she made oath in due form of law that the facts, information and representations set forth in the foregoing Company’s Final Waiver and Release, are true and accurate to the best of his/her knowledge, information and belief.

(My commission expires: ____________________)
AFFIDAVIT THAT ALL TAXES HAVE BEEN PAID

RE: Claymont Elementary School Renovations

Date: __________________________

TO: BRANDYWINE SCHOOL DISTRICT
1311 BRANDYWINE BOULEVARD
WILMINGTON, DE 19809

The undersigned certifies that all federal, state and local taxes (including sales, consumer, use and excise taxes) applicable to the work and services performed and materials and equipment incorporated into the work, in each case pursuant to the contract referred to above, have been paid in full.

SUPPLIER/CONTRACTOR: __________________________

By: __________________________

Date: __________________________ Title: __________________________

STATE OF )
COUNTY OF )

On this _____ day of _____________, ____, before me personally came __________________________
______________________________, to me known who, being by me duly sworn, did depose and say that
he resides at __________________________ that
he is __________________________ of __________________________
the corporation that executed the foregoing instrument and that he signed his name thereto by order of the Board of
Directors of said corporation.

______________________________ Notary Public

My Commission Expires: __________________________
GUARANTEE AND WARRANTY

WHEREAS, ______________________, hereinafter called the “Guarantor,” entered into a contract dated ______________, hereinafter called the “Contract,” with the Christina School District, hereinafter called the Owner, for the construction of the Claymont Elementary School Renovations (hereinafter referred to as the “Work”), located at 3401 Green Street, Wilmington, DE 19809.

WHEREAS, the Owner has performed, kept, observed and fulfilled each and every one of the obligations, promises, stipulated, terms and conditions on its part, and

WHEREAS, by the terms of the Contract, one of the conditions precedent to the making of final payment is the execution and delivery by the Grantor of this guarantee and warranty; and

WHEREAS, the Guarantor is now desirous of obtaining payment pursuant to the terms of said Contract and as a condition precedent to such payment, furnishes this separate guarantee and warranty for all work and material included in said Contract,

NOW THEREFORE, in consideration of the premises and of the payments made to the Guarantor under said Contract and in further consideration of final payment, the Guarantor does hereby for itself and its successors, heirs and assigns, guarantee and warrant to the Owner, its successors and assigns, that the Guarantor has performed all the work required by said Contract in accordance with the terms thereof including but not limited to satisfactory operation of all equipment by means or acceptance tests, correction of items on punchlists prepared by the Architect, and that all portions of the work completed under the Contract are perfect as to materials and workmanship and will so remain from ______________ _____ for a period of one (1) year; and

The Guarantor does hereby further guarantee and warrant that the Guarantor will make good and replace at its own cost and expense all defects in material and workmanship appearing during the period aforesaid and the Guarantor will be responsible for all damage caused to the Owner by such defects or by the work required to remedy such defects. All corrections to material and workmanship shall be made at the convenience of the Owner and shall be performed in a good workmanlike manner.

The Guarantor does hereby warrant and represent that it has obtained warranties and guarantees from its material and equipment suppliers and from its subcontractors to the fullest extent possible and as customary in the various trades and has delivered all assignable warranties and guarantees to the Owner.

It is understood that this guarantee shall in no way be construed to limit in any manner any of the provisions of the Contract or to modify or limit any of the obligations, liabilities and duties of the Guarantor thereunder.

It is further understood that his guarantee shall remain binding and irrevocable during the above stated period and that the Guarantor shall not contest the validly of, or in any way attempt to revoke or withdraw from, this guarantee for any cause whatsoever, whatever arising before or after the execution of the Contract or this guarantee.
IN WITNESS WHEREOF, the Guarantor has caused this instrument to be signed and executed this
___________ day of ____________, 20___.

________________________________________ (GUARANTOR)

WITNESS:  

BY:  ________________________________

______________________________ TITLE:  ________________________________

STATE OF __________ )
COUNTY OF __________ )

On this ______day of ____________, 20___, before me personally came
___________, to me known who, being by me duly sworn, did depose and say that he resides at
______________________, that he is ________________________________ of ____________________________,
the corporation that executed the foregoing instrument and that he signed his name thereto by order of the Board of Directors of said corporation.

________________________________________

NOTARY PUBLIC

My Commission Expires:  ____________________

END OF SECTION
Contractor's Affidavit of Payment of Debts and Claims

PROJECT: (Name and address)

ARCHITECT'S PROJECT NUMBER:

TO OWNER: (Name and address)

CONTRACT FOR: General Construction

CONTRACT DATED:

OWNER:

ARCHITECT:

CONTRACTOR:

SURETY:

OTHER:

STATE OF:

COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose

Indicate Attachment ☐ Yes ☒ No

The following supporting documents should be attached hereto if required by the Owner:

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.

2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.


BY:

(Signature of authorized representative)

(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:
Contractor's Affidavit of Release of Liens

PROJECT: (Name and address)  
ARCHITECT'S PROJECT NUMBER:  
ARCHITECT:  
CONTRACT FOR: General  
Construction  
CONTRACTOR:  
TO OWNER: (Name and address)  
OWNER:  
CONTRACT DATED:  
SURETY:  
OTHER:  
STATE OF:  
COUNTY OF:  

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:  
1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.  
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

CONTRACTOR: (Name and address)  
BY:  
(Signature of authorized representative)  
(Printed name and title)

Subscribed and sworn to before me on this date:

Notary Public:  
My Commission Expires:
Consent Of Surety to Final Payment

PROJECT: (Name and address)

ARCHITECT’S PROJECT NUMBER:

TO OWNER: (Name and address)

ARCHITECT: ☐

ARCHITECT: ☐

CONTRACT FOR: General Construction

SURETY: ☐

SURETY: ☐

CONTRACT DATED:

CONTRACTOR: ☐

CONTRACTOR: ☐

OWNER: ☐

SURETY:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the

(Surety)

on bond of

CONTRACTOR:

(Insert name and address of Contractor)

Surety, SURETY,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the

(Owner)

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:

(Surety)

(Signature of authorized representative)

(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Owner)

Attest:

(Printed name and title)
SECTION 01 81 13
SUSTAINABLE DESIGN REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

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

B. Implement practices and procedures to meet the Project’s environmental performance goals, which include obtaining a LEED® Silver certification based on LEED-Schools v2009 rating system. Ensure that the requirements related to these goals, as defined in this section and throughout the contract documents, are implemented to the fullest extent.

1. The aforementioned rating system document, attached as an appendix, states the basic intent, requirements and documentation submittals that are necessary to achieve each prerequisite and credit. Projects earn one or more points toward certification by meeting or exceeding each credit’s technical requirements. All prerequisites must be achieved in order to qualify for certification. Points add up to a final score that relates to one of four possible levels of certification. See the LEED Checklist for a summary of credit topics and point values. The LEED Reference Guide—the technical companion to the Rating System and Letter Template—provides further background, explanations and instruction.

C. Substitutions or other changes to the work proposed by the Contractor or their subcontractors shall not be allowed if such changes compromise LEED Requirements.

D. It is the responsibility of the Contractors to bring to the attention of the Architect any conflicts between the sustainable design criteria listed in this section and any additional performance criteria or “acceptable products” listed in other sections of the contract documents (specifications or drawings.) These conflicts shall be brought to the Architect’s attention for resolution prior to the purchase or installation of the materials in question. LEED criteria will not be waived unless specifically approved, in writing by the Architect and the LEED Consultant.

E. A copy of the LEED Project checklist is attached at the end of this Section for information only. Assume credits in the “?Y” and “?” column are being pursued.

F. Re:Vision Architecture has been hired to assist the team with the LEED process and make it simpler. They will be able to answer appropriate questions during the bidding and execution of the project. For more information, please visit or call:

1. Re:Vision Architecture
2. 133 Grape Street
3. Philadelphia PA 19127
4. 215 482 1133 e-fax 208 441 4564
5. reduce. reuse. recycle. re:vision

1.02 RELATED SECTIONS

A. Divisions 01 through 33 Sections for LEED requirements specific to the work of each of these Sections. Requirements may or may not include reference to LEED.

B. Section 01 74 19 Construction Waste Management

C. Section 01 81 15 Volatile Organic Compound (VOC) Limits for Adhesives, Sealants, Paints & Coatings
D. Section 01 81 19 Construction Indoor Air Quality Requirements
E. Section 01 91 00 General Commissioning Requirements

1.03 REFERENCE STANDARDS

F. Forest Stewardship Council (FSC), [https://ic.fsc.org/].
   1. STD 01-001, “FSC Principles and Criteria for Forest Stewardship.”
   2. STD 40-004 v2-1 “FSC Standard for Chain of Custody Certification”

1.04 DEFINITIONS

A. Agrifiber Products: A composite panel product derived from recovered agricultural waste fiber from sources including, but not limited to, cereal straw, sugarcane bagasse, sunflower husk, walnut shells, coconut husk and agricultural pruning.
B. Assembly Product: Product formulated from multiple materials (e.g. concrete) or made up of subcomponents (e.g. a workstation).
C. Chain-of-Custody (CoC) Certification: Requirements are determined by the Forest Stewardship Council's (FSC) Standard for Chain of Custody Certification, 40-004 v2-1, to comply with FSC Standard 01-001, "FSC Principles and Criteria for Forest Stewardship." It is awarded to companies, vendors/distributors and fabricators that produce, sell, promote, or trade forest products after audits verify proper accounting of material flows and proper use of the FSC name and logo.
   1. A CoC certificate is not required for vendors/ distributors of any product that is individually labeled with the Forest Stewardship Council logo and manufacturer's chain-of-custody number, as long as it is not altered in any way (e.g. wood blocking is used as blocking, sheathing as sheathing).
2. For assembled products with multiple wood components (e.g. custom millwork, doors, windows, etc), the fabricator must hold a COC certificate.
3. Components identified as FSC Mixed (NN) % are allowed but should be valued at the indicated percentage, for example FSC Mixed 75% should be valued at 75% of the product cost.
4. Assembled wood products having any non-controlled wood components are not compliant, since the entire product must be FSC certified.

D. Composite Wood: A product consisting of wood of plant particles or fibers bonded together by synthetic resin of binder. Composite wood products include, but are not limited to, doors, windows, MDF, OSB and plywood.

E. Hard-Surface Flooring: Products such as vinyl, linoleum, laminate flooring, wood flooring, ceramic flooring, rubber flooring, and wall base.

F. LEED: Leadership in Energy & Environmental Design rating system developed by the United States Green Building Council (USGBC).

G. Material Costs
1. LEED Total Material Cost: Is the total project construction cost for all products and materials included in the following MasterFormat 2004 specification sections (inclusive of taxes and transportation costs, but exclusive of labor and equipment costs incurred after the material is delivered to the site):
   a. Divisions 3 (Concrete) through Division 10 (Specialties)
   b. Division 12 (Furniture) Optional
   c. Section 31.60.00 (Special Foundations and Load-Bearing Elements)
   d. Section 32.10.00 (Bases, Ballasts, and Paving)
   e. Section 32.30.00 (Site Improvements)
   f. Section 32.90.00 (Planting)
   g. LEED Total Material Cost does not include costs associated with mechanical, plumbing, and electrical components or equipment.
2. Product Material Cost: The cost for a given material (e.g. sheet of drywall), or an assembled product (e.g. casework), including taxes and delivery but excluding any cost for labor and equipment required for installation after the material is delivered to the site.

H. Mineral-Based Finish Flooring Products: Products such as tile, masonry, terrazzo, cut stone without integral organic-based coatings and sealants.

I. Rapidly Renewable Materials: Materials are agricultural products, both fiber and animal, that takes 10 years or less to grow or raise and can be harvested in a sustainable fashion. Rapidly renewable materials include products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, or wool.

J. Recycled Content: Is the proportion, by mass (weight), of pre-consumer or post-consumer recycled material in a product as defined by ISO 14021.
1. "Post-consumer" material is defined as waste generated by household, commercial, industrial, or institutional end-users, which can no longer be used for its intended purpose. It includes returns of materials from the distribution chain. Examples include construction and demolition debris, materials collected through recycling programs, discarded products (e.g., furniture, decking, concrete, plastic bottles), and landscaping waste (e.g., leaves, grass clippings, tree trimmings).
2. "Pre-consumer" material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it. Examples include planer shavings, sawdust, bagasse, walnut shells, culls, trimmed materials, over-issue publications, and obsolete inventories.

K. Regional Materials: Materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

1. Manufacturing Location: Refers to the location where final assembly of all components to produce a building product occurs. For example, the hardware for a pre-assembled truss comes from Dallas, Texas, the lumber from Vancouver, British Columbia, and is assembled in Kent, Washington; then the location of the final assembly is Kent, Washington.

2. Extraction, Harvest or Recovery Location: Refers to the location of raw materials prior to manufacturing of the building material or product that is furnished and installed in the project building. For example, in a concrete mix, consider the location that all raw ingredients: sand, aggregates, fly ash, slag, or Portland cement come from. The extraction point for any recycled material (e.g. steel) is the location of the material prior to the manufacturing of the final product (e.g. recycling facility, scrap yard, depository, stock pile, or any other location for the material prior to the final manufacturing location).

1.05 PERFORMANCE REQUIREMENTS

A. MRc2 Construction Waste Management: At least 75% of total nonhazardous construction or demolition waste is diverted from landfills or incinerator facilities.

B. MRc4 Recycled Content: At least 20% of products purchased and installed for the project contain recycled content, based on LEED total material cost.

C. MRc5 Regional Materials: At least 20% of products purchased and installed for the project are manufactured and raw materials are extracted, harvested or recovered within 500 miles of the project site, based on LEED total material cost.

D. MRc7 Certified Wood: At least 50% of new wood products purchased and installed for the project are certified by FSC, based on LEED total new wood material cost.

E. EQc4.1 Low Emitting Materials - Adhesives and Sealants: 100% of site-applied adhesives and sealants, tracked by this credit, installed in the building interior (inside the weatherproofing system) must comply with the VOC limits established by Section 01 81 14 VOC Limits for Adhesives, Sealants, Paints & Coatings.

F. EQc4.2 Low Emitting Materials - Paints and Coatings: 100% of site-applied paints and coatings, tracked by this credit, installed in the building interior (inside the weatherproofing system) must comply with the VOC limits established by Section 01 81 14 VOC Limits for Adhesives, Sealants, Paints & Coatings.

G. EQc4.3 Low Emitting Materials - Flooring Systems:
   1. 100% of flooring systems installed in the building interior (inside the weatherproofing system) are certified or tested according to one of the following standards, as applicable to product type:
      a. CRI Green Label program (Carpet Cushions)
      b. CRI Green Label Plus program (Carpets)
      c. FloorScore (Hard Surface Flooring)
d. California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 addenda."

e. California Department of Public Health (CDPH) Standard Method V1.1-2010 using test results obtained at the 14 day time point

2. 100% of site-applied adhesives, sealants, paints and coatings associated with flooring systems installed in the building interior (inside the weatherproofing system) must comply with the VOC limits established by Section 01 81 14 VOC Limits for Adhesives, Sealants, Paints & Coatings.

H. EQc4.4 Low Emitting Materials - Composite Wood and Agrifiber Products: 100% of all composite wood or agrifiber products and associated laminates installed in the building interior (inside the weatherproofing system) shall not contain added urea-formaldehyde resins.

I. EQc4.6 Low Emitting Materials - Ceiling and Wall Systems:
   1. All gypsum board, insulation, acoustical ceiling systems, and wall coverings installed in the building interior (inside the weatherproofing system) meet the testing requirements of the California Department of Health Services Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda (commonly referred to as compliance with CDPH Standard Method, or compliant with Section 01350).

1.06 SUBMITTALS

A. General:
   1. Submit LEED documentation as needed for submittals required by other Specification Sections, as requested by the LEED consultant during the process or by GBCI as part of the third party review.
   2. In some cases, required LEED documentation is the same as standard submittals, for example, product data and MSDS documents will often contain LEED information like VOC content and testing standards. You can simply highlight this information on the submittal and make a note of it with your submittal package you need not duplicate the submittal and issue it separately as a LEED submittal.
   3. For every product, submit a LEED Environmental Reporting form. A blank form is provided at the end of this specification section.

B. SSp1 Construction Activity Pollution Prevention [Prerequisite]
   1. Erosion and Sedimentation Control [ESC] plan conforming to the 2003 EPA Construction General Permit OR local standards and codes, whichever is more stringent. While the permit only applies to construction sites greater than 1 acre, the requirements are applied to all projects for the purposes of this prerequisite.
   2. Final LEED Report containing at minimum monthly progress reports from 3 different times during the construction period (beginning, middle and end); refer to Part 1 Section V: LEED Progress Reports. OR
   3. At minimum 3 inspection reports from local conservation district. Reports should be from 3 different periods over the course of construction (beginning, middle and end).
   4. For all deficiencies noted over the course of construction, provide a log or description of corrective action performed, regardless of option pursued; photographs or inspection reports.

C. SSc7.2 Heat Island Effect - Roof
1. Product cut sheets or other technical documentation from the product manufacturer, indicating SRI value of roofing products.

D. WEp1 Water Use Reduction - 20%
   1. Product cut sheets for all flush and flow fixtures indicating manufacturer, model, and flow rate.

E. MRc2 Construction Waste Management
   1. Provide submittals per Section 01 74 19 Construction Waste Management and Disposal.

F. MRc4 Recycled Content
   1. Completed BDC Material and Resources Calculator
      <http://www.usgbc.org/resources/bdc-material-and-resource-calculator>, with LEED total construction cost provided.
      (http://www.usgbc.org/resources/bdc-material-and-resource-calculator)
   2. Completed Environmental Reporting Form for all products containing recycled content. List each product (or components) material cost, pre-consumer recycled content, and post-consumer recycled content.
   3. Product data sheet, MSDS, certificate or letter from product manufacturers indicating percentages by weight of post-consumer and pre-consumer recycled content.
      a. NOTE: LEED product data submittals will be required until the aggregate recycled content value as a function of total material cost per the BDC Material and Resources calculator is equal to or greater than 35%. Refer to individual specification sections for product specific requirements.

G. MRc5 Regional Materials:
   1. Completed BDC Material and Resources Calculator
      <http://www.usgbc.org/resources/bdc-material-and-resource-calculator>, with LEED total construction cost provided.
      (http://www.usgbc.org/resources/bdc-material-and-resource-calculator)
   2. Completed Environmental Reporting Form for all products regionally sourced. List each product’s (or component’s) material cost, manufacturing location and distance from the project, as well as, the point of extraction, harvest, or recovery for raw materials and distance from the project. Locations can be identified by zip code or city and state, while distance should be provided in miles from the project site, as the crow flies.
   3. Product data sheet or letter from product manufacturers indicating location and distance from Project for final product manufacturing and point of extraction, harvest, or recovery for each raw material.
      a. LEED product data submittals will be required until the aggregate regional material value as a function of total material cost per the BDC Material and Resources calculator is equal to or greater than 35%. Refer to individual specification sections for product specific requirements.

H. MRc7 Certified Wood:
   1. Completed BDC Material and Resources Calculator
      <http://www.usgbc.org/resources/bdc-material-and-resource-calculator>, with LEED total construction cost provided.
      (http://www.usgbc.org/resources/bdc-material-and-resource-calculator)
   2. Completed Environmental Reporting Form for all new wood products. List each product’s (or component’s) material cost, percent of new wood content and the percent of new wood that is FSC certified.
   3. A copy of each vendor’s Chain of Custody Certificate.
a. A CoC certificate is required from vendors who are providing FSC certified wood products manufactured with FSC certified wood. Vendors are defined as those companies that sell products to the project contractor or subcontractors. The FSC certified wood products can either arrive to the site manufactured (e.g. pre-manufactured wood doors) or can be manufactured on-site (e.g. custom wood cabinetry). This CoC certificate will validate that the entire assembly does not contain any conventional wood.

b. CoC certificate will not be required for subcontractors or contractors who are installing FSC-certified products in the project building or on-site, as long as, the product's packaging or form is not modified, except as required for installation. Contractors and sub-contractors will be careful not mix or contaminate the FSC-certified material with non-FSC-certified material.

4. Shop Drawings for custom millwork shall include reference to the millwork fabricators CoC certificate number.

5. Invoices from each wood vendor identifying:
   a. Vendor’s Chain of Custody certificate number
   b. Each wood product purchased for the project, on a line-item basis, with FSC wood products clearly highlighted. Differentiate between FSC Pure, FSC Mixed Credit, or FSC Mixed (NN)%.
   c. Exceptions: In some rare instances, it may not be practical for a vendor to invoice wood products on a line item basis because the invoice would be too long. In such cases, the invoice should indicate the aggregate value of wood products sold and comply the following requirements:
      1) Identify the vendor’s CoC certificate number
      2) Provide a supplementary letter from the vendor stating that the products invoiced are FSC certified and identify type of FSC products provided: FSC Pure, FSC Mixed Credit, or FSC Mixed (NN)%.
   d. Note: Invoices will be required until the aggregate certified wood value as a function of total new wood cost per the BDC Material and Resources calculator is equal to or greater than 50%. Refer to individual specification sections for product specific requirements.

I. EQc3.1 Construction IAQ Management Plan - During Construction:
   1. Provide submittals per Section 01 81 19 Indoor Air Quality Requirements.

J. EQc3.2 Construction IAQ Management Plan - Before Occupancy

K. EQc4.1 Low Emitting Materials - Adhesives and Sealants:
   1. Completed Environmental Reporting Form indicating each adhesive and sealant’s actual VOC content per the applicable standard, based on product type.
   2. Product data sheets, MSDS, certificates or letter from product manufacturer highlighting actual VOC content in g/L, calculated per the applicable standard, for all adhesives and sealants.
   3. Laboratory test reports indicating that adhesives and sealants used in the project meet the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 addenda."

L. EQc4.2 Low Emitting Materials - Paints and Coatings:
1. Completed Environmental Reporting Form indicating each paints and coatings actual VOC content, based on product type.
2. Product data sheets, MSDS, certificates or letter from product manufacturer highlighting actual VOC content in g/L, calculated per the applicable standard, for all paints and coatings.
3. Laboratory test reports indicating that paints and coatings installed in the building meet the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 addenda."

M. EQc4.3 Low Emitting Materials - Flooring Systems:
1. Completed Environmental Reporting Form indicating each flooring products and associated adhesives, sealants, paints and coatings actual VOC content and the applicable standard, based on product type.
2. Certificates from product manufacturer or testing agency for flooring products indicating that they comply with the applicable standards.
3. Product data sheets, MSDS, certificates or letter from product manufacturer highlighting actual VOC content in g/L, calculated per applicable standards based on product type, for all project adhesives, sealants, paints and coatings.
4. Laboratory test reports indicating that all flooring systems and associated adhesives, grouts, sealants, finishes and sealers installed in the building meet the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 addenda."
   a. Test reports are not required for mineral-based finish flooring products such as tile, masonry, terrazzo, and cut stone WITHOUT integral organic-based coatings and sealants and unfinished/untreated solid wood flooring. However, any site-applied adhesives, grouts, finishes and sealers must be compliant for a mineral-based or unfinished/untreated solid wood flooring system to qualify for credit.

N. EQc4.4 Low Emitting Materials - Composite Wood and Agrifiber Products:
1. Completed Environmental Reporting Form for all composite wood and agrifiber products and laminating adhesives confirming compliance with the requirement for no added urea-formaldehyde resins.
2. Product data sheets, MSDS, certificates or letter from product manufacture highlighting that the composite wood or agrifiber product and/or associated laminating adhesive do not contain urea-formaldehyde resin.
3. Laboratory test reports indicating that all composite wood or agrifiber products and laminating adhesives installed in the building meet the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 addenda."

O. Indoor Environmental Air Quality Credit 4.5 [EQc4.5] Low Emitting Materials - Furnishings and Furniture Systems:
1. Product data for classroom furniture indicating they meet either:
   a. The emissions requirements of the GREENGUARD Children and Schools standard, with testing conducted in an independent third-party air quality testing laboratory.
   b. Required calculated indoor air concentrations established for classroom furniture and seating when determined by a procedure based on ANSI/BIFMA M7.1 - 2007 and...
ANSI/BIFMA X7.1-2007 testing protocol, when modeled using the classroom scenario of the California Department of Health Services Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda, with testing conducted in an independent third-party air quality testing laboratory.

P. Indoor Environmental Air Quality Credit 4.6 [EQc4.6] Low Emitting Materials - Ceiling and Wall Systems:
   1. Laboratory test reports for all gypsum board, insulation, acoustical ceiling systems and wall coverings installed in the interior of the building that show conformance with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 addenda."

Q. LEED ACTION PLAN: Develop and submit an execution plan, referred to as the LEED Action Plan, within 30 days of Notice to Proceed. The plan should include a synopsis of the intent and requirements, as well as, the contractor’s procedures and parties responsible to successfully document and achieve each applicable LEED prerequisite and credit. The following credits and prerequisite are the contractors responsibility, in part or in whole, and should be included in the LEED Action Plan:
   1. SSp1 Construction Activity Pollution Prevention Plan
      a. Erosion and Sedimentation Control [ESC] plan conforming to the 2003 EPA CGP.
      b. Blank templates that will be used to generate photographic inspection reports.
         Provide space for date photograph was taken, name of individual performing the inspection, location of photograph, and description of ESC management strategy implemented.
      c. Blank templates that will be used to generate inspections report.
      d. EAp1 Fundamental Commissioning and EAc3 Enhanced Commissioning:
         1) Project schedule, showing coordination for commissioning activities based on commissioning report; see Section 01 91 00 Commissioning Requirements.
      e. MRc2 Construction Waste Management Plan
         1) Construction Waste Management Plan complying with Section 01 74 19 Construction Waste Management and Disposal.
         2) Blank waste tracking spreadsheet identifying the anticipated waste types to be diverted from the landfill.
      f. MRc3 through MRc7
         1) Provide the project’s LEED total construction cost in Tab A of the BDC Materials and Resources Calculator. This value should exclude all costs associated with labor, equipment, earthwork and mechanical, plumbing or electrical trades; see 1.6 Definitions above.
      g. MRc4 Recycled Content
         1) List in the BDC Materials and Resources Calculator, by CSI section, all products and material types anticipated to contain recycled content per project drawings and specification. Provide estimated costs for each product or material type.
      h. MRc5 Regional Materials
         1) List in the BDC Materials and Resources Calculator, by CSI section, all products and material types anticipated to be regionally sourced per project
drawings and specification. Provide estimated costs for each product or material type.

i. MRc7 Certified Wood
   1) List in the BDC Materials and Resources Calculator, by CSI section, all new wood product types including FSC certified products, per project drawings and specification. Provide estimated costs for all new wood products and FSC certified wood products.

j. EQc3.1 Construction IAQ Management - During Construction &
   1) IAQ Management Plan per Section 01 81 19 Indoor Air Quality Requirements.
   2) Blank templates that will be used to generate photographic inspection reports. Provide space for date photograph was taken, name of individual performing the inspection, location of photograph, and description of IAQ management strategy implemented.
   3) Blank log that will be used to document identified deficiencies, date of identification, corresponding corrective action, and date of corrective action.
   4) Blank log that will be used to document temporary filter installation, filter inspection during use and final permanent filter replacement prior to occupancy.

k. EQc3.2 Construction IAQ Management - Prior to Occupancy
   1) IAQ Management Plan per Section 01 81 19 Indoor Air Quality Management.
   2) Flushout: Project schedule incorporating duration for full or partial flushout.
   3) Air Testing: Project schedule incorporating initial air testing date, as well as, a plan showing quantity and location of tests.

l. EQc4.1 Low Emitting Materials - Adhesives and Sealants & EQc4.2 Low Emitting Materials - Paints and Coatings
   1) Project specific list of adhesive, sealant, paint and coating types (i.e. acoustical sealant, drywall adhesive, PVC pipe primer/solvent or solvent welding, flat paint, concrete sealer, etc) anticipated for site-application in the building interior (within the weatherproofing system), with corresponding allowable VOC content per Section 01 81 14 VOC Limits for Adhesives, Sealants, Paints & Coatings.

m. EQc4.3 Low Emitting Materials - Flooring Systems
   1) Project specific list of anticipated flooring systems and types (i.e. ceramic tile, carpet type 1, carpet type 2, VCT, linoleum, etc) with applicable standard.
   2) Project specific list of adhesives, sealants, paints and coatings TYPES (i.e. concrete sealer, VCT adhesive, ceramic tile glue or grout, etc) anticipated for site-application TO INSTALL FLOORING SYSTEMS in the building interior (within the weatherproofing system), with corresponding allowable VOC content per Section 01 81 14 VOC Limits for Adhesives, Sealants, Paints & Coatings

n. EQc4.4 Low Emitting Materials - Composite Wood and Agrifiber
   1) Project specific list of anticipated composite wood and agrifiber products.

R. LEED Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with LEED Action Plan for the following:
   1. SSp1 Construction Activity Pollution Prevention Plan
      a. A monthly ESC report containing at minimum, 6 date-stamped photographs with a description of each ESC strategy implemented, such as dust control or temporary mulching or seeding and identification of photograph location. Photographs of
deficiencies and related corrective action should also be included along with a brief description. OR
b. A monthly report containing inspection reports from local conservation district along with a log of deficiencies with descriptions of corrective action clearly noted.

2. MRC2 Construction Waste Management
   a. As required per 01 74 19 Construction Waste Management and Disposal.

3. MRC3 through MRC7
   a. Updated BDC Materials and Resources Calculator including actual material costs, product manufacturer, product model/name, and sustainability criteria values (% recycled content, % regional material, % rapidly renewable material, % certified wood); to reflect purchases to date.

4. EQc4.1 thru EQc4.6 Low Emitting Materials
   a. Updated Low Emitting Material lists provided in LEED Action Plan for each credit to include actual VOC content, product manufacturer, product model/name, and confirm applicable standards; to reflect purchases to date.

5. EQc3.1 Construction IAQ Management - During Construction
   a. As required per 01 81 19 Indoor Air Quality Requirements.

S. LEED Online Documentation: Within 30 days of Substantial Completion complete LEED Online credit forms for each credit and prerequisite identified as the contractor's responsibility in the attached checklist and upload all required documentation.

1.07 QUALITY ASSURANCE
   A. LEED Coordinator: The Construction Manager is responsible for engaging an experienced, currently credentialed with the appropriate specialty, LEED-Accredited Professional on staff to coordinate LEED requirements and attend LEED specific meetings and calls. LEED coordinator may also serve as ESC, waste management, or IAQ management coordinator and serve other project specific functions.

1.08 PROJECT CONDITIONS
   A. No smoking will be permitted within 100 feet of the building, with no exceptions. Twenty dollars per violation will be held from Contractor’s, subcontractors, Architects or other Design Professionals contract who violate this condition. The money held will be donated to the local Green Building Council at the end of the project.

PART 2 - PRODUCTS
2.01 MATERIALS, GENERAL
   A. Provide products and procedures necessary to obtain LEED credits required in this Section. Although other Sections may specify some requirements that contribute to LEED credits, the Contractor shall determine additional materials and procedures necessary to obtain LEED credits indicated.

PART 3 - EXECUTION
3.01 GENERAL REQUIREMENTS
   A. Respond to questions and requests from Architect and the USGBC regarding LEED credits that are the responsibility of the Contractor, that depend on product selection or product qualities, or that depend on Contractor's procedures until the USGBC has made its determination on the project's LEED certification application. Document responses as informational submittals.
B. Contractor shall be responsible for utilizing LEED Online to complete LEED forms for credits for which they are responsible. These could include the following: MRc2, MRc3, MRc4, MRc5, MRc7, IEQc3.1-3.2, and IEQc4.1-4.6. Contractor shall review all LEED online forms prior to the start of construction to review their responsibilities during construction. Among other responsibilities, the Contractor will need to contribute material cost information to MRc3-7.

3.02 REFRIGERANT AND CLEAN-AGENT FIRE-EXTINGUISHING-AGENT REMOVAL

A. Prerequisite EA 3: Remove CFC-based refrigerants from existing HVAC&R equipment indicated to remain and replace with refrigerants that are not CFC based. Replace or adjust existing equipment to accommodate new refrigerant as described in HVAC Sections.

B. Credit EA 4: Remove clean-agent fire-extinguishing agents that contain HCFCs or halons and replace with agent that does not contain HCFCs or halons. See Section 212200 "Clean-Agent Fire-Extinguishing Systems" for additional requirements.

3.03 CONSTRUCTION WASTE MANAGEMENT

A. MRc2: Comply with Section 01 74 19 "Construction Waste Management and Disposal."

3.04 CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT

A. EQc3.1 and EQc3.2: Comply with Section 01 81 19 "Indoor Air Quality Management."
## LEED SCORECARD SUMMARY
### LEED for Schools v2009

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<th>Category</th>
<th>Points</th>
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**Note:** Most projects lose 2-4 points during the review process.
This project is pursuing Leadership in Energy and Environmental Design (LEED) Certification for LEED for New Construction, version 2009. This form is to be completed by a Corporate Officer of the Product Manufacturer, the Subcontractor, and the Contractor before the regular product submittal can be reviewed. See attached Allowable VOC Limits Spreadsheet for additional information.

**SUBMITTING COMPANY INFORMATION**

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<th>Company:</th>
<th>Supplier:</th>
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<td>Contact Name:</td>
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<td>Phone:</td>
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The general contractor named below hereby attest that the attached information has been reviewed and is the most complete and valid information available. We submit this for review.

<table>
<thead>
<tr>
<th>General Contractor Name/Signature:</th>
<th>Date:</th>
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**PRODUCT/COMPONENT**

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<th>MRc5 Regional Material</th>
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<td>% Pre-Consumer</td>
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133 Grape Street Philadelphia, PA 19127 TEL 215.482.1133 FAX 208.441.4564 Info@ReVisionArch.com
### DEFINITIONS / ABBREVIATIONS

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**Chain-of-Custody (CoC):** The path taken by raw materials, processed materials, and products from the forest to the consumer, including all successive stages of processing, transformation, manufacturing and distribution.

**Chain-of-Custody (CoC) certification:** CoC certification requirements are determined by the Forest Stewardship Council’s (FSC) Chain of Custody Standard 40-004 v2-1. It is awarded to companies, vendors/distributors and fabricators that produce, sell, promote, or trade forest products after audits verify proper accounting of material flows and proper use of the FSC name and logo. A CoC certificate is not required for vendors/distributors of any product that is individually labeled with the Forest Stewardship Council logo and manufacturer’s chain-of-custody number, as long as it is not altered in any way (e.g. wood blocking is used as blocking, sheathing as sheathing). For assembled products with multiple wood components (e.g. custom millwork, doors, windows, etc), the fabricator must hold a CoC certificate. Components identified as FSC Mixed (NN) % are allowed but should be valued at the indicated percentage, for example FSC Mixed 75% should be valued at 75% of the product cost. Assembled wood products having any non-controlled wood components are not compliant, since the entire product must be FSC certified.

**CRI:** Carpet and Rug Institute

**Manufacturing location:** Refers to the location where final assembly of all components occurs to produce the building product that is furnished and installed by the tradesmen. For example, if the hardware comes from Dallas, Texas, the lumber from Vancouver, British Columbia, and the joist is assembled in Kent, Washington; then the location of the final assembly is Kent, Washington.

**Preconsumer recycled content (also known as, postindustrial content):** The percentage of material in a product that is recycled from manufacturing waste. Examples include planer shavings, sawdust, bagasse, walnut shells, culs, trimmed materials, over-issued publications, and obsolete inventories. Excluded are rework, regrind, or scrap materials capable of being reclaimed within the same process that generated them. (ISO 14021)

**Postconsumer recycled content:** The percentage of material in a product that was consumer waste generated by household, commercial, industrial, or institutional end-users and can no longer be used for its intended purpose. It includes returns of materials from the distribution chain. Examples include construction and demolition debris, materials collected through recycling programs, discarded products (e.g., furniture, cabinetry, decking), and landscaping waste (e.g., leaves, grass clippings, tree trimmings). (ISO 14021)

**Rapidly Renewable Materials:** Are agricultural products, both fiber and animal, that take 10 years or less to grow or raise and can be harvested in a sustainable fashion. Examples include: linoleum, form-release agents made from plant oils, natural paints, geotextile fabrics from coir and jute, cork, and textiles such as organic cotton, wool, poplar OSB and sisal.

**Recycled content:** Is the proportion, by mass, of preconsumer or postconsumer recycled material in a product. (ISO 14021)

**Total product material cost:** The cost for a given material (e.g. sheet of drywall), or an assembled product (e.g. casework), including taxes and delivery but excluding any cost for labor and equipment required for installation after the material is delivered to the site. This value must be provide by the contractor/sub-contractor.

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### SUSTAINABLE DESIGN REQUIREMENTS

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<tr>
<th>PRODUCT/COMPONENT</th>
<th>MANUFACTURER</th>
<th>MATERIAL COST</th>
<th>SUSTAINABILITY CRITERIA</th>
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Is supporting product data or a letter from the manufacturer stating each product/components sustainability criteria attached? Yes?

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133 Grape Street Philadelphia, PA 19127 TEL 215 482 1133 FAX 208 441 4564 Info@ReVisionArch.com
END OF SECTION
SECTION 01 81 14
VOC LIMITS FOR ADHESIVES, SEALANTS, PAINTS & COATINGS

PART 1 - GENERAL

1.01 SUMMARY

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

B. Implement practices and procedures to meet the Project’s environmental performance goals,
   which include obtaining the LEED Indoor Environmental Quality points for Low Emitting
   Materials. Ensure that the requirements related to these goals, as defined in this section and
   throughout the contract documents, are implemented to the fullest extent.

C. Substitutions or other changes to the work proposed by the Contractor or their subcontractors
   shall not be allowed if such changes compromise LEED requirements.

1.02 RELATED SECTIONS

A. Divisions 03 through 33 Sections for LEED requirements specific to the work of each of these
   Sections. Requirements may or may not include reference to LEED.

B. Section 01 81 13 Sustainable Design Requirements

C. Section 01 81 19 Construction Indoor Air Quality Requirements

D. Section 07 92 00 Joint Sealants

E. Section 09 90 00 Painting

1.03 REFERENCE STANDARDS

A. General: Comply with the applicable provisions of the referenced standards except as modified
   by governing codes and the Contract Documents. Where a recommendation or suggestion
   occurs in the referenced standards, such recommendation or suggestion shall be considered
   mandatory. In the event of conflict between referenced standards, this specification or within
   themselves, the more stringent standard or requirement shall govern.

1. California Department of Health Service (CDHS), “Standard Practice for the Testing of
   Volatile Organic Emissions from Various Sources Using Small Scale Environmental
   Chambers”

2. California Department of Public Health (CDPH), “Standard Method for the Testing and
   Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using
   Environmental Chambers”, v1.1-2010. Note that FloorScore certified products are tested
   to this standard.


4. South Coast Air Quality Management District (SCAQMD), State of California,
      effective date of July 1, 2005.
1.04 DEFINITIONS
A. Volatile Organic Compounds (VOCs): Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. Compounds that have negligible photochemical reactivity, listed in EPA 40 CFR 51.100(s), are also excluded from this regulatory definition.

1.05 DELIVERY AND STORAGE
A. Do not store adhesives, sealants, paints, and other Architectural coatings with materials that have a high capacity to absorb VOC emissions (i.e., materials which are woven, fibrous or porous in nature, such as acoustical ceilings, textiles, etc.).
B. Do not store open containers of any adhesives, sealants, paints, or other coatings. Close and seal after each use.

1.06 PERFORMANCE REQUIREMENTS
A. EQc4.1 Low Emitting Materials - Adhesives and Sealants
1. Architectural Adhesives
   a. Ceramic Tile Adhesive SCAQMD 1168
      1) Adhesive used for the installation of ceramic tile products.
   b. Cove Base Adhesive SCAQMD 1168
      1) Adhesive used during the installation of cove base (or wall base), which is generally made of vinyl or rubber, on a wall or vertical surface at floor level.
   c. Drywall and Panel Adhesive SCAQMD
      1168
      1) Adhesive used during the installation of gypsum dry wall to studs or solid surfaces.
   d. Multipurpose Construction Adhesive SCAQMD
      1168
      1) Adhesive to be used for the installation or repair of various construction materials, including but not limited to: drywall, subfloor, panel, fiberglass reinforced plastic (FRP), ceiling tile, and acoustical tile.
   e. Structural Glazing Adhesives SCAQMD
      1168
      1) Adhesive to be used to adhere glass, ceramic, metal, stone, or composite panels to exterior building frames.
2. Flooring Adhesives
   a. Carpet pad adhesive SCAQMD 1168
      1) Adhesive used for the installation of a carpet pad (or cushion) beneath a carpet.
b. Indoor carpet adhesive

50

SCAQMD 1168
1) Adhesive used during the installation of a carpet that is in an enclosure and is not exposed to ambient weather conditions during normal use.

c. Rubber floor adhesive

60

SCAQMD 1168
1) Adhesive that is used for the installation of flooring material in which both the back and the top surface are made of synthetic rubber, and which may be in sheet or tile form.

d. Subfloor adhesive

50

SCAQMD 1168
1) Adhesive used for the installation of subflooring material over floor joists.

e. VCT and asphalt tile adhesive

50

SCAQMD 1168
1) Vinyl composition tile and is a material made from thermoplastic resins, fillers and pigments.

f. Wood flooring adhesive

100

SCAQMD 1168
1) Adhesive used to install a wood floor surface, which may be in the form of parquet tiles, wood planks, or strip-wood.

3. Specialty Adhesives

a. ABS welding

325

SCAQMD 1168
1) ABS plastic is made by reacting monomers of acrylonitrile, butadiene, and styrene and is normally identified with an ABS marking.

b. Adhesive primer for plastic

550

SCAQMD 1168
1) Coating applied to a substrate, prior to the application of an adhesive, to provide a bonding surface.

c. Contact Adhesive

80

SCAQMD 1168
1) Adhesive applied to two separate surfaces, allowed to dry, and brought together for adhesion and bonding with subsequent pressure.

d. CPVC welding

490

SCAQMD 1168
1) CPVC plastic is a polymer of the chlorinated polyvinyl monomer that contains 67% chlorine and is normally identified with a CPVC marking.
e. Plastic cement welding

SCAQMD 1168
1) Use of adhesives made of resins and solvents which are used to dissolve the surfaces of plastic, except ABS, CPVC, and PVC plastic, to form a bond between mating surfaces.

f. PVC welding

SCAQMD 1168
1) PVC plastic is a polymer of the chlorinated vinyl monomer that contains 57 percent chlorine.

g. Sheet Applied Rubber Lining Operations

SCAQMD 1168
1) The hand application of sheet rubber lining to metal or plastic substrates in order to protect the underlying substrate from corrosion or abrasion. These operations also include laminating sheet rubber to fabric.

h. Special Purpose Contact adhesive

SCAQMD 1168
1) Contact adhesive that is used to bond all of the following substrates to any surface: melamine covered board, metal, unsupported vinyl, Teflon, ultra-high molecular weight polyethylene, rubber and wood veneer 1/16 inch or less in thickness.

i. Structural Wood Member adhesive

SCAQMD 1168
1) Adhesive used for the construction of any load bearing joints in wooden joists, trusses, or beams.

j. Top and Trim Adhesive

SCAQMD 1168
1) Adhesive used during the installation of automotive and marine trim, including, but not limited to, headliners, vinyl tops, vinyl trim, sunroofs, dash covering, door covering, floor covering, panel covering and upholstery.

k. Substrate Specific Adhesive Application

SCAQMD 1168
1) Fiberglass Substrate Adhesive

(a) Fine filaments of glass.

2) Metal to metal Substrate Adhesive

30 SCAQMD 1168

3) Plastic Foams Substrate Adhesive

50 SCAQMD 1168

(a) Foam constructed of plastics.

4) Porous material (except wood) Substrate Adhesive

50 SCAQMD 1168

(a) Porous material is a substance which has tiny openings, often microscopic, in which fluids may be absorbed or discharged. Such materials include, but
are not limited to, wood, fabric, paper, corrugated paperboard, and plastic foam.

5) Wood Substrate Adhesive

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1. If an adhesive is used to bond dissimilar substrates together, the adhesive with the highest VOC content shall be allowed.

4. Aerosol Adhesives: A mixture of rubber, resins, and liquid and gaseous solvents and propellants packaged in a container for hand-held application.
   a. General Purpose Mist Spray 65% by weight GS-36
   b. General Purpose Web Spray 55% by weight GS-36
   c. Special Purpose Aerosol adhesive 70% by weight GS-36

5. Sealants: Any material with adhesive properties that is formulated primarily to fill, seal, or waterproof gaps or joints between two surfaces. Sealants include sealant primers and caulk.
   a. Architectural

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1) Any sealant or sealant primer applied to stationary structures, including mobile homes, and their appurtenances. Appurtenances to an architectural structure include, but are not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.

b. Other Sealants

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6. Sealant Primers: Any product applied to a substrate, prior to the application of a sealant, to enhance the bonding surface.
   a. Architectural Non-Porous

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b. Architectural Porous

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1) Substance which has tiny openings, often microscopic, in which fluids may be absorbed or discharged. Such materials include, but are not limited to, wood, fabric, paper, corrugated paperboard, and plastic foam.

c. Other Sealant Primers

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B. EQc4.2 Low Emitting Materials - Paints and Coatings

1. Architectural Coatings
a. Flat Coatings
   GS-11
   1) Coatings that register a gloss of less than 15 on an 85-degree meter or less than 5 on a 60-degree meter.

b. Floor Coatings
   SCAQMD 1113
   1) Opaque coatings that are formulated for or applied to flooring; including but not limited to garages, decks, and porches, and clear coatings formulated for or applied to concrete flooring, but do not include Industrial Maintenance Coatings.

c. Graphic Arts Coatings
   SCAQMD 1113
   1) Coatings formulated from hand-application by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers, and bulletin enamels.

d. Low Solids Coatings
   SCAQMD 1113
   1) Coatings containing one pound or less of solids per gallon of material.

e. Mastic Coatings
   SCAQMD 1113
   1) Coatings formulated to cover holes and minor cracks and to conceal surface irregularities, and applied in a thickness of at least 10 mils (dry, single coat).

f. Metallic Pigmented Coatings
   SCAQMD 1113
   1) Decorative coatings, excluding industrial maintenance and roof coatings, containing at least 0.4 pounds per gallon (48 grams/liter) of coating, as applied, of elemental metallic pigment (excluding zinc), mica particles or any combination of the two.

g. Multi-Color Coatings
   SCAQMD 1113
   1) Coatings which exhibit more than one color when applied and which are packaged in a single container and applied in a single coat.

h. Non-flat Coatings
   GS-11
   1) Coatings that are not defined under any other definition in this rule and that register a gloss of 5 or greater on a 60 degree meter and a gloss of 15 or greater on an 85 degree meter according to ASTM Test Method D 523.
i. Primers

200 SCAQMD 1113
1) Coatings applied to a surface to provide a firm bond between the substrate and subsequent coats.

j. Sealer

200 SCAQMD 1113
1) Coatings applied to either block materials from penetrating into or leaching out of a substrate, to prevent subsequent coatings from being absorbed by the substrate, or to prevent harm to the subsequent coatings by materials in the substrate.

k. Specialty Primers 350

SCAQMD 1113
1) Coatings formulated for or applied to a substrate to seal fire, smoke or water damage; or to condition excessively chalky surfaces. An excessively chalky surface is one that is defined as having chalk rating of four or less as determined by ASTM D-4214 - Photographic Reference Standard No. 1 or the Federation of Societies for Coatings Technology “Pictorial Standards for Coatings Defects”.

l. Undercoaters 200

SCAQMD 1113
1) Coatings formulated to for or applied to substrates to provide a smooth surface for subsequent coats.

m. Waterproofing Sealers 250

SCAQMD 1113
1) Clear or pigmented sealers that are formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, or staining.

2. Concrete & Cement Materials Coatings

a. Bond Breakers 350

SCAQMD 1133
1) Coatings formulated for or applied between layers of concrete to prevent the freshly poured top layer of concrete from bonding to the substrate over which it is poured.

b. Concrete Curing Compounds 350

SCAQMD 1113
1) Coatings formulated for or applied to freshly poured concrete to retard the evaporation of water.

c. Concrete Form Release Compound 250

SCAQMD 1113
1) Coatings designed for or applied to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of metal, wood, or some material other than concrete.

d. Concrete Surface Retarders

SCAQMD 1113
1) Coatings containing one or more ingredients such as extender pigments, primary pigments, resins, and solvents that interact chemically with the cement to prevent hardening on the surface where the retarder is applied, allowing the mix of cement and sand at the surface to be washed away to create an exposed aggregate finish.

e. Magnesite Cement Coatings

SCAQMD 1113
1) Coatings formulated for or applied to magnesite cement decking to protect the magnesite cement substrate from erosion by water.

f. Waterproofing Concrete/Masonry Sealer:

SCAQMD 1113
1) Clear or pigmented sealers that are formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, or staining.

3. Faux Finishes & Decorative Coatings

a. Faux Finishing - Clear Top Coats

SCAQMD 1113
1) Clear coatings used to enhance, seal and protect a Faux Finishing coating. These clear topcoats must be sold and used solely as part of a Faux Finishing coating system.

b. Faux Finishing - Decorative Coatings

SCAQMD 1113
1) Coatings used to create a goniophotrent appearance, such as metallic, iridescent, or pearlescent appearance, that contain at least 48 grams of pearlescent mica pigment or other iridescent pigment per liter of coating as applied (at least 0.4 pounds per gallon).

c. Faux Finishing - Glazes

SCAQMD 1113
1) Coatings designed for wet-in-wet techniques used to create artistic effects, including but not limited to dirt, old age, smoke damage, simulated marble and wood grain finishes, decorative patterns, color blending, and wet edge techniques.

d. Faux Finishing - Japans

SCAQMD 1113
1) Pure concentrated pigments, finely ground in a slow drying vehicle used by Motion Picture and Television Production Studios to create artistic effects, including but not limited to, dirt, old age, smoke damage, water damage, and simulated marble and wood grain.
e. Faux Finishing - Trowel Applied Coatings
   350 SCAQMD 1113
   1) Coatings applied by trowel that are used to create aesthetic effects, including, but not limited to polished plaster, clay, suede and dimensional, tactile textures.

4. Industrial Maintenance [IM] Coatings
   a. IM Coatings

   250 SCAQMD 1113
   1) Coatings, including primers, sealers, undercoaters, intermediate coatings and topcoats, formulated for or applied to substrates, including floors, that are exposed to one or more of the following extreme environmental conditions: Immersion in water, waste water, or chemical solutions, or chronic exposure of interior surfaces to moisture condensation. Acute or chronic exposure to corrosive, caustic or acidic agents, or similar chemicals, chemical fumes, chemical mixtures, or solutions. Repeat exposure to temperatures in excess of 250 degrees Fahrenheit. Repeat heavy abrasion, including mechanical wear and repeated scrubbing with industrial solvents, cleaners, or scouring agents. Exterior exposure of metal structures.

   b. High Temperature IM Coatings

   420 SCAQMD 1113
   1) Industrial maintenance coatings formulated for or applied to substrates exposed continuously or intermittently to temperatures above 400°F (204°C).

   c. Zinc Rich IM Primers

   340 SCAQMD 1113
   1) Primers formulated to contain a minimum of 65 percent metallic zinc powder (zinc dust) by weight of total solids for application to metal substrates.

5. Wood Coatings
   a. Brushing Lacquer

   680 SCAQMD 1113
   1) Clear wood finishes, excluding clear lacquer sanding sealers, formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction and to provide a solid, protective film, which are intended exclusively for application by brush without thinning or spraying.

   b. Clear Finishes

   550 SCAQMD 1113
   1) Clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates, including floors, decks and porches, to provide a transparent or translucent solid film.

   c. Lacquer

   550 SCAQMD 1113
1) Clear or pigmented wood finishes, including clear lacquer sanding sealers, formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction.

d. Varnish

350 SCAQMD 1113
1) Clear or pigmented wood finishes formulated with various resins to dry by chemical reaction.

e. Sanding Sealers

SCAQMD 1113
1) Clear wood coatings formulated for or applied to bare wood for sanding and to seal the wood for subsequent application of coatings.

f. Shellac: Clear

SCAQMD 1113
1) Shellac: Pigmented

SCAQMD 1113
2) Clear or pigmented coatings formulated solely with the resinous secretions of the lac insect (laccifer lacca). Shellacs are formulated to dry by evaporation without a chemical reaction providing a quick-drying, solid, protective film for priming and sealing stains and odors; and for wood finishing excluding floors.

g. Stains, Interior

SCAQMD 1113
1) Opaque or semi-transparent coatings which are formulated to change the color but not conceal the grain pattern or texture.

h. Wood Preservatives

SCAQMD 1113
1) Coatings formulated to protect wood from decay or insect attack by the addition of a wood preservative chemical registered by the California Environmental Protection Agency.

PART 2 - PRODUCTS

2.01 MATERIALS, GENERAL

A. Provide products and procedures necessary to obtain LEED credits required in this Section. Although other Sections may specify some requirements that contribute to LEED credits, the Contractor shall determine additional materials and procedures necessary to obtain LEED credits indicated.

PART 3 - EXECUTION

END OF SECTION
SECTION 01 81 19
INDOOR AIR QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

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

B. Implement practices and procedures to meet the Project’s environmental performance goals, which include obtaining LEED Indoor Environmental Quality Credit 4 for Construction Indoor Air Quality Management Plans. Ensure that the requirements related to these goals, as defined in this section and throughout the contract documents, are implemented to the fullest extent. Substitutions or other changes to the work proposed by the Contractor or their subcontractors shall not be allowed if such changes compromise LEED Requirements.

C. This Section includes requirements for the development of a Construction Indoor Air Quality Management Plan to be implemented throughout the duration of the project construction in order to minimize the detrimental impacts on air quality resulting from construction activities. Factors that contaminate indoor air, such as dust entering HVAC systems and ductwork, improper storage of materials on-site and poor housekeeping, shall be minimized.

1.02 RELATED SECTIONS

A. Divisions 01 through 33 Sections for LEED requirements specific to the work of each of these Sections.

B. Section 01 81 13 Sustainable Design Requirements

C. Section 01 91 00 General Commissioning Requirements

1.03 DEFINITIONS:

A. A Construction IAQ Management Plan is a document specific to a building project that outlines measures to minimize contamination in the building during construction and to flush the building of contaminants prior to occupancy.

B. (MERV) = Minimum Efficiency Reporting Value.

1.04 REFERENCE STANDARDS


1.05 SUBMITTALS

A. Indoor Air Quality Management Plan: Within thirty (30) days after receipt of Notice to Proceed, the Contractor shall develop and submit to the Owner for review an indoor air quality management plan. The Plan shall include, but not be limited to, the following:

1. Address each of the five categories (including subsections) covered by the SMACNA “IAQ Guidelines for Occupied Buildings under Construction” as follows:
   a. HVAC Protection
      1) Return side
      2) Central filtration
      3) Supply side
      4) Duct cleaning
   b. Source Control
      1) Product substitution
      2) Modifying equipment operation
      3) Changing work practice
      4) Local Temporary Exhaust
      5) Air Cleaning
      6) Covering or Sealing Sources of Pollution
   c. Pathway Interruption
      1) Depressurize work area
      2) Pressurize occupied space
      3) Erect Barriers to contain construction area
      4) Relocate pollutant sources
      5) Temporarily seal the building
   d. Housekeeping
   e. Scheduling

2. Description of methods for protecting stored on-site or installed absorptive materials from moisture damage.

3. Schedule for inspection and maintenance of IAQ measures.

4. Description of the procedures and protocols in place for using permanently installed air handlers during the construction of the Project.

5. Description of the smoking policy for the project site during construction, refer to Section 01 81 13 Sustainable Design Requirements.

6. The building must go through a flush-out or air testing. Incorporate procedures for the flush-out or air testing into the IAQ Management Plan.

B. If HVAC systems are used for temporary heating, cooling or ventilation during construction, provide the following:

1. Product data for temporary filtration media.

2. Log identifying installation date of temporary filtration media, dates that filtration media was inspected and dates for when permanent filters were installed.

C. Product data for permanent filtration media installed prior to occupancy.

D. Flush Out: Signed statement describing the building air flush-out procedures including the dates when flush-out was begun and completed and statement that filtration media was replaced after flush-out. Coordinate with Mechanical Engineer for flush out calculations and duration.
E. Air Testing: Report from testing and inspecting agency indicating results of IAQ testing and documentation showing compliance with IAQ testing procedures and requirements.

F. Submit a copy or photograph of "No Smoking" signs posted around the job site.

G. LEED Progress Reports: Concurrent with each Application for Payment, submit monthly report containing at minimum, 6 date-stamped photographs with a description of each IAQ management strategy implemented, such as HVAC protection, pathway interruption, protection of absorptive materials, etc. Photographs of deficiencies and related corrective action should also be included along with a brief description.

H. LEED Online Documentation: Within 30 days of Substantial Completion complete LEED Online credit form and upload all required documentation.

1.06 QUALITY ASSURANCE

A. Construction IAQ Representative: The Construction Manager shall designate an individual as their Construction IAQ Representative, who will be responsible for communicating the progress of the Plan with the Owner, Architect and LEED Consultant on regular basis, and for assembling the required green building documentation.

PART 2 - PRODUCTS

2.01 CLEANING

A. Using low-toxic cleaning supplies for cleaning of surfaces, equipment, and personal use complying with GS-37 or other equivalent standard.

1. GS-37 tested and approved cleaning products can be found on their website:
   http://www.greenseal.org/certproducts.htm#cleaners

2.02 FILTRATION MEDIA

A. If air handlers are used during construction, temporary filtration media must be provided, which must meet one of the following performance criteria:
   1. MERV of at least 8, as determined by ASHRAE 52.2-1999 (with errata but without addenda)
   2. Class F5 or higher, as defined by CEN Standard EN 779-2002, Particulate air filters for general ventilation, Determination of the filtration performance; OR
   3. Minimum dust spot efficiency of 30% or higher and greater than 90% arrestance on a particle size of 3-10 µg

B. Temporary filtration media must be used at each return air grille.

C. After completion of construction and prior to occupancy, temporary filtration media must be replaced with new permanent filters.

1. Replace filtration media shall be MERV 13, as determined by ASHRAE 52.2-1999 (with errata but without addenda), in order to comply with LEED credit EQc5 Indoor Chemical & Pollutant Source Control.

PART 3 - EXECUTION

3.01 GENERAL

A. The General Contractor/Construction Manager shall be responsible for implementation of the Construction IAQ Management Plan, and for the coordination of the Plan with all affected trades. The Construction Manager shall include provisions in the Plan for addressing
conditions in the field that do not adhere to the Plan, including provisions to implement a stop work order or rectify non-compliant conditions.

B. Sub-contractors shall be responsible for the implementation of specific control measures, as specified in the Construction IAQ Management Plan. Subcontractors shall coordinate their responsibilities through the Construction Manager and their designated Construction IAQ Representative.

3.02 IAQ MANAGEMENT PLAN

A. Protection of Materials from Moisture Damage: As part of the Housekeeping section of the IAQ Management Plan, implement measures to prevent installed materials or material stored on-site from moisture damage. Include measures to be taken if moisture damage does occur to absorptive materials during the course of construction.

B. Installation and Replacement of Filtration Media: As part of the HVAC Protection section of the IAQ Management Plan, provide and install filtration media in all ventilation equipment during construction and confirm replacement for all equipment prior to occupancy. Filtration media shall meet the requirements of Item 2.2 Filtration Media of this specification.

C. Sequence of Finish Installation for Materials:

1. Where feasible, absorptive materials (referred to herein as “Type 2” products) shall be installed after the installation of materials or finishes which have high short-term emissions of VOC’s, formaldehyde, particulates, or other air-born compounds (referred to herein as “Type 1” products). Absorptive materials include, but are not limited to: carpets; acoustical ceiling panels; fabric wall coverings; insulations (exposed to the airstream); upholstered furnishings; and other woven, fibrous or porous materials. Materials with high short-term emissions include, but are not limited to: adhesives, sealants and glazing compounds (specifically those with petrochemical vehicles or carriers); paints, wood preservatives and finishes; control and /or expansion joint fillers; hard finishes requiring adhesive installation; gypsum board (with associated finish processes and products); and composite or engineered wood products with formaldehyde binders.

2. Develop a separate sequencing plan that identifies feasible opportunities to meet the above-stated goals for the project.

3.03 FLUSH OUT

A. After construction ends (including all interior finishes) but prior to occupancy, install new filtration media and supply a total air volume of 14,000 cubic feet of outdoor air per sf of floor area. Maintain internally 60 degrees F and no higher than 60 % RH within the building during the flush out procedure.

1. Permanent filters used during the flush-out shall meet the requirements of Item 2.2 Filtration Media of this specification.

B. If occupancy is desired prior to completion of the flush-out, the space may be occupied following delivery of a minimum of 3,500 cubic feet of outdoor air per square foot of floor area to the space. Once a space is occupied, it shall be ventilated at a minimum rate of 0.3 cfm/sf of outside air or the design minimum outside air rate determined by ASHRAE 62.1-2007, whichever is greater. Each day of the flush out, ventilation shall begin a minimum of three hours prior to occupancy and continue during occupancy. These conditions shall be maintained until a total of 14,000 cubic feet per square foot of outside air has been delivered to the space.
3.04 AIR TESTING

A. After construction ends (including all interior finishes) but prior to occupancy, use testing protocols consistent with the EPA Compendium of Methods for the Determination of Air Pollutants in Indoor Air and as additionally detailed below:
   1. Demonstrate max contaminant concentrations listed below are not exceeded:
      a. Formaldehyde: 27 parts per billion
      b. Particulates (PM10): 50 micrograms per cubic meter
      c. Total VOCs: 500 micrograms per cubic meter
      d. 4-Phenylcyclohexene (4-PCH): 6.5 micrograms per cubic meter
      e. Carbon Monoxide: 9 parts per million and no greater than 2 parts per million above outdoor levels

B. Testing must be done during what would be normal occupied hours with the building ventilation system started at the normal daily start time and operated at the minimum outside air flow rate for the occupied mode throughout the test.

C. Movable furnishings should be in place for the testing, but it is not required.

D. For each portion of a building served by a separate ventilation system, there must be 1 sampling point per 25,000sf of floor area or for each contiguous floor area, whichever is greater. Sampling must be collected between 3 and 6 feet above finished floor, and over a 4 hour period.

3.05 INSPECTIONS & PROCEDURES

A. Conduct regular inspection and maintenance of indoor air quality measures including ventilation system protection, and ventilation rate.

B. Require VOC-safe masks for workers installing VOC-emitting products (interior and exterior) defined as products that emit 150 g/l or more UNLESS local jurisdiction's requirements are more strict, in which case the strictest requirement shall be followed for use of VOC-safe masks.

C. Use low-toxic cleaning supplies for surfaces, equipment, and worker’s personal use. Options include cleaning products that comply with the Green Seal GS 37 Standard. Worker protection is provided.

D. Temporarily seal the building when asphalt paving is installed.

E. Remove spills of solvent containing material.

F. Remove construction waste containers such-as sealants from the indoor areas of the building.

G. To prevent areolation of dust, vacuum with HEPA filters.

H. Use safety meetings, signage, and subcontractor agreements to communicate the goals of the indoor air quality construction plan.

END OF SECTION
SECTION 01 19 10
SPECIFIC COMMISSIONING PLAN—CONTRACT DOCUMENT PLAN – BID PAC B

New Construction
Plan Approved: ___________________ ___________________
Engineer’s Signature Title
Date:

1. Overview

1.1 Abbreviations and Definitions
The following are common abbreviations used in this document. Definitions are found in Project’s of Standard Specifications.

A/E- Architect and Design Engineers FT- Functional Performance Test
ICA- Independent Commissioning authority CM- Construction Manager
CC- Controls Contractor MC/PC- Mechanical Contractor & Plumbing Contractor
OR Owner’s Representative PC- Prefunctional Checklist/Readiness Check List
Cx- Commissioning PM- Project Manager
Cx- Commissioning Plan Document Plan Sub- Subcontractors to General
EC- Electrical Contractor TAB- Test and Balance Contractor
SMC- Sheet Metal Contractor
FSC Fire Sprinkler Contractor WTC Water Treatment Contractor
FAC Fire Alarm Contractor OPR Owner’s Project Requirements

1.2 Purpose of The Commissioning Plan
The purpose of the preconstruction, construction, and post-construction phase commissioning plan is to:

1. Provide direction for the Cx of this facility as specified by A/E and Owner during the bidding and construction of the Claymont Elementary School’s Mechanical/Plumbing/Electrical/Fire Protection/data and ancillary systems.

2. Provide direction for the commissioning process during the construction, particularly facilitating resolution for issues and providing details for the commissioning process. To provide Cx scheduling, participation of various parties of this particular project, actual lines of reporting and approvals, coordination, etc.

This plan does not provide a detailed explanation of required testing procedures. The detailed testing requirements and procedures are found in the various Specifications Sections or on manufacturer’s start-up procedures. Additionally, this plan does not provide extensive narrative on all commissioning concepts, as may be provided in other commissioning guides.

1.3 Commissioning Scope
Commissioning is a systematic process of ensuring that all building systems being commissioned perform interactively according to the design intent and the owner’s operational needs, and the A/E drawings and specifications. This will be achieved by beginning in the design, design phase, documenting the design
intent and continuing through construction and acceptance with actual verification of performance. In this case, the process started before design began in the Owner’s desire to have the building commissioned.

1.3.1 Commissioning Requirement – Predesign and Design Phase
Commissioning during the predesign and design phases is intended to achieve the following specific objectives:

- Confirm all equipment is accessible, in locations for maintenance, provide low energy usage with required indoor air quality (IAQ) per A/E’s specifications, and meet USGBC interior noise levels, energy conservation, water usage, and other set by the USGBC. A 50% design review was completed per USGBC requirements.
- To do a review of the contract documents during the bidding period – relative to the items being commissioned, and prepare Cx check sheets.
- Review the commissioning documents with the CM and revise the Cx Plan accordingly.
- Provide the Owner with Cx Report (hard copy and disk).

1.3.2 Commissioning Requirements – Construction Phase
Commissioning during the construction of this project is intended to achieve the following specific objectives:

According to the Contract Documents:

- Ensure that applicable equipment and systems are installed properly and receive adequate operational checkout by installing contractors in accordance with the contract documents and manufacturer’s instructions.
- Verify and document proper performance of equipment, systems and controls, and carry out readiness checks and document results. Ensure control checks are completed and documented.
- Ensure that O&M documentation left on site is complete per contract documents (by Contractor and CM).
- Ensure that the Owner’s operating personnel are adequately trained.
- Oversite and reviewing of TAB and WTC activities and results to confirm TAB operation will be completed prior to the commissioning of systems.
- With the CM, coordinate commissioning activities among contractors and subs and other trades.
- ICA to observe all final startup, system operations, and functional test, and all equipment/systems for performance verification purposes. All tests will be controlled by the responsible Contractors.
- Provide communication through the A/E and CM to resolve Cx results that do not meet OPR’s and project design plans and specifications.

1.3.3 Commissioning Requirement – Post Commissioning Phase – Enhanced Commissioning
Commissioning after the completion and acceptance by the Owner (substantial completion as defined by the CM), the following specific activities will be undertaken to meet the USGBC enhanced commissioning requirements.
• To recommission the HVAC and BAS System to operate in the opposite (heating or cooling) mode than the systems was originally Cx and do a 10-month Cx of the systems.
• Conduct a 50% design review (already completed).
• M/E/P shop drawing review of submittals with the Engineer with methodology and analysis and logs.
• Be present at all training sessions with sign-in sheets of CM, contractor, and Owner’s mechanics present.
• Develop local maintenance schedule for in-house staff – a manual.
• A manual listing all M/E/P systems installed, responsibilities for its maintenance (local and central maintenance requirements)

1.4 Commissioned Systems [Bid Docs]
The following marked systems will be commissioned in this project. In Phase I, system readiness and startup. All general references to equipment in this document refer only to equipment that is to be commissioned.

**HVAC System (and all integral equipment controls)**

- Chiller system (including controls, chillers, piping, pumps and variable speed drives, heat tracing)
- Boiler System (including controls, boilers, piping and pumps) (circulator & in-line)
- Pumps (hot, chilled – primary and secondary)
- Variable speed drives
- Heat exchangers
- Piping, cleaning, flushing, leak testing and material used.
- Ductwork and Leak Testing/Duct Sox and cleaning if required.
- Make-up air unit for kitchen hood.
- Packaged rooftop units w/o energy recovery.
- Split systems – ductless and condensing unit
- Split air handler and condensing unit
- Packaged Energy Recovery Unit (ERU’s or RTU with energy recovery)
- Fin tube radiation, electric.
- Gas Fired H&V Units
- Branch Module Units
- Air Cooled Condensing Units
Evaporative coolers

Water treatment (hot and chilled)

Chilled Beams (Active)

Testing, adjusting and balancing work

Unit heaters and cabinet unit heaters – electric

Air purification addition to RTU-1

Duct sound attenuation

Building automation system (controlled devices, control loops, control points and system integration and review of sequences as programmed.)

Piping HVAC systems installation, tested, pumps, insulation and controls (heating, chilled).

Heating and cooling ancillary items (expansion tank, air and solids separators)


Duct system and installation, filters changed, insulation and balanced

Smoke/Fire damper operation.

Vibration isolation installed to specs and adjusted and Seismic restraints (if specified).

Louvers and dampers (MOD’s)

Fans and speed controller. (Exhaust, Return, Transfer)

Geothermal well field (installation, grouting, testing and test well review).

Heat pumps.

Reheat Coils and VAV boxes.

Pool Pak Unit

Kitchen Hood (Supply and Exhaust Make-Up Air System and ductwork with insulation and dishwasher exhaust fan and ducting)

Grilles, Registers & Diffusers (GRD’s)

Underslab Radiant Floor Heating Systems for Areas B and E (if installed)

Electric baseboard radiation heaters

**Plumbing Systems**

Gas or electric water heaters, pumps, piping, pipe sterilization, and recirculating pump and thermostatic mixing valve and ancillary items.
Rainwater removal – roof and floor drains & clean outs

Plumbing fixtures, Grease trap, Valves

Sprinkler System & fire pump (if required)

Kitchen hood fire suppression system (if required by Fire Marshal)

Electric water cooler

Eye wash station, wall hydrants, washing machine and connections.

**Electrical Systems**

- Emergency Generator/ATS.
- Security & Intercom
- Fire Alarm
- Lighting Systems and Controls (Occupancy sensors, daylight harvesting, time clocks and photocells, switches)
- Photo Voltaic System (if installed)
- Lightning Protection (if installed)
- Electric power distribution system

**General**

- Training – All MEP Systems.
- Maintenance procedures for operating staff.

### 1.5 Commissioning & Communications Process & Forms

The commissioning of a project is a process which will be tracked and scheduled using the following:

- The Commissioning Agent will compile a record notebook for this project containing tabs:
  - Correspondence
  - Construction Commissioning Plan
  - Commissioning Schedule (by CM)
  - Meeting Minutes and Progress Reports
  - Progress Record
  - Issue Log
  - Prefunctional Testing (Systems Readiness, Startup & Contractor Start-up Report & Initial Operation)
This includes all items listed in 1.4 above with separate tabs for major areas. (Mechanical/Plumbing/Electrical)

- Functional Performance testing with CC.
  This includes all systems noted in 1.4 above, both tested as operating system in normal, fire alarm and emergency generator with separate tabs.
- Demonstration, Training, Record Plans and Maintenance Manuals

- A series of forms will be used to initiate, track and show resolution on the non-compliance with the commissioning process. The forms will include, but not be limited to:
  - Cx issues log – normally e-mails
  - Request for documentation and record of submission – normally e-mails
  - Testing scope outline – Cx to issue check sheets to CM for distribution.
  - Overall staff training and orientation required, the CM will schedule all training.

- All communications on the Cx process issued by the CxA, will be in writing, except very minor items. All design related issues will be forwarded to the A/E team for resolution and issuance of direction by the A/E team. Any non-compliance of equipment/system issues will be submitted to the CM for resolution. All project existing communication lines will be followed and observed.

2. General Building Information (Bid)

Project: Claymont Elementary School – Bid Pac B
Location: Claymont, Delaware
Building Type (Office, Court, Etc.): Elementary School
Square Footage: TBN . Number of Stores: 1, 2, and (2) Small Basements
Construction Period: 2018/2019/2020

Commissioning of new plumbing systems including new water heaters, piping and insulation, sprinkler systems and fire pump and hood fire suppression systems.

Commissioning of Electrical power feed and distribution systems and Electrical Systems including lighting and controls, security, fire alarm, intercom systems.

Commissioning of the BAS, review of the TAB Report & Procedures, water treatment report.

Post-construction

 X Provide Cx Report to Owner and Ten-Month BAS/HVAC Review

A follow-up Cx process will be conducted as part of the LEED ® Enhanced Commissioning Requirements.
<table>
<thead>
<tr>
<th>Team Member</th>
<th>Co. &amp; Contact Names</th>
<th>Voice, office, cell, fax, email, address</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Owner</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Manager</td>
<td>John Read</td>
<td><a href="mailto:John.read@bsd.k12.de.us">John.read@bsd.k12.de.us</a></td>
</tr>
<tr>
<td>Site Engineer</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>Property Manager</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Construction Manager</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Site Contact</td>
<td>TBA</td>
<td></td>
</tr>
<tr>
<td>Mechanical</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>General Contractor</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Supervisor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Coordinator</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commissioning Authority</strong></td>
<td>Cx Herbert L. Duffield, P.E.</td>
<td>530-5618 <a href="mailto:hduffield@verizon.net">hduffield@verizon.net</a></td>
</tr>
<tr>
<td><strong>Architect</strong></td>
<td>ABHA Architects</td>
<td>658-6426</td>
</tr>
<tr>
<td>Sean Malloy</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mechanical Designer/Eng.</strong></td>
<td>Furlow Associates, Inc.</td>
<td>798-3515</td>
</tr>
<tr>
<td>Dwayne E Gauthier</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Electrical Designer/Eng.</strong></td>
<td>Furlow Associates, Inc.</td>
<td>798-3515</td>
</tr>
<tr>
<td>Douglas M Green</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Plumbing &amp; Sprinkler System</strong></td>
<td>Furlow Associates, Inc.</td>
<td>738-7551</td>
</tr>
<tr>
<td>Clayton B Hathaway, P.E.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tenant Representative</strong></td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td><strong>Mechanical Contractor</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC Site Superv.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piping Contractor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheet Metal Contractor</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Electrical Contractor</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Supervisor</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. Roles and Responsibilities

4.1 Locations of Role Descriptions [Bid Docs]

Descriptions and explanations of the roles and responsibilities of those in the commissioning process are found in the following places in the Contract Documents:

List of team members: Cx Plan, 4.2
Management plan outline: Cx Plan, 4.3. Specifications ______
General roles: Cx Plan, 4.4, Specifications ______

Specific responsibilities:
- Information for all parties: Specs 220000, 230000 & 260000
- CM: See all parts
- Mechanical, Plumbing contractor, controls contractor, subs and mfr’s: Specs All Div. 23 & 230900
- Mechanical Sections: All Division 22
- Electrical contractor, subs and mfr’s: All Division 26 & 28
- Commissioning authority: Specs See ASHRAE Guideline 0 – 2005 Requirements
- Water Treatment: Specs 230510
- A/E: A/E Contract
- TAB: Specs 230950
- Fire Sprinkler & Pump: All Division 21

4.2 Team Members

The members of the commissioning team consist of the ICA, CM, assigned members of the A/E (particularly the mechanical engineer), the mechanical contractor, electrical contractor, TAB representative, controls contractor, FAC and FSC Contractors, Plumbing Contractor, Sheet Metal, any other installing subcontractors or suppliers of equipment. If known, the Owner’s building or plant operator/ engineer and staff are also a member of the commissioning team.
4.3 General Management Plan [Bid Docs]

The ICA was hired by the Architect directly, but reports directly to the owner. In general, the ICA coordinates the commissioning activities and reports directly to the OR and CM. The ICA’s responsibilities, along with all other contractors’ commissioning responsibilities are detailed in the specifications. The Specifications will take precedence over this Cx Plan. All members work together to fulfill their contracted responsibilities and meet the objectives of the Contract Documents and the OPR’s. Refer to the management protocols section below.

4.4 General Descriptions of Roles

General descriptions of the commissioning roles are as follows:

- **ICA**: Coordinates the Cx process with CM, and documents prefunctional checkout and performance tests. All test reports shall be reviewed by the office of the A/E.
- **CM**: Facilitates the Cx process, ensures that Subs perform their responsibilities and integrates Cx into the construction process and schedule.
- **MC/PC/EC & CC along with Subs**: Demonstrate proper system performance and resolve operational problems.
- **A/E**: Perform construction observation, approve Contractor shop drawings with the ICA and O&M manuals and assist in resolving problems.
- **OR/PM**: Facilitates and supports the Cx process and gives final approval of the Cx work.
- **Mfr.**: The equipment manufacturers and vendors provide documentation to facilitate the commissioning work and perform contracted startup and training and provide start-up reports.

5. Commissioning Process

This section sequentially details the commissioning process by commissioning task or activity.

5.1 Commissioning Scoping Meeting [Bid Docs]

A commissioning scoping meeting is planned and conducted by the ICA within thirty (30) days after signing of the project contract. In attendance are the respective representatives of the CM, ICA, PM, A/E and the mechanical, electrical, controls, and TAB subs. At the meeting commissioning parties are introduced and the commissioning process reviewed, management and reporting lines determined. The flow of documents, how much submittal data the ICA will receive, etc. are also being discussed. The Cx Plan is reviewed, process questions are addressed, lines of reporting and communications determined and the work products list discussed. Also covered are the general list of each party’s responsibilities, who is responsible to develop the startup plan for each piece of equipment and the proposed commissioning schedule. The outcome of the meeting is increased understanding by all parties of the commissioning process and their respective responsibilities. The meeting provides the ICA additional information needed to finalize the Cx Plan, including the commissioning schedule.

Prior to this meeting the ICA is given, by the CM, all drawings and specifications and the construction schedule by trade. The ICA keeps notes from the meeting and distributes them to each team member.
5.2 Final Commissioning Plan—Construction Phase

The ICA finalizes the draft Cx Plan using the information gathered from the scoping meeting. The initial commissioning schedule is also developed (Table 7-1) along with a detailed timeline using Form C-10, Detailed Commissioning Schedule. The timeline is fine-tuned as construction progresses. In particular, 30 days prior to startup of the primary equipment, the CA meets with the CM and develops a detailed commissioning schedule. The commissioning plan is approved by the CM & Engineer.

5.3 Shop Drawing Review – Construction Phase

The ICA shall review the shop drawings submitted by the Contractors on equipment to be commissioned to ensure that all meet the OPR’s and the Basis of Design approved by the Owner and all are to be reviewed, approved and signed off by the A/E Team. The ICA is a review only as part of the LEED ® Enhanced Commissioning Process.

5.4 Site Observation

The ICA, and CM if applicable, makes periodic visits to the site, as necessary, to witness equipment and system installations, along with the A/E team.

5.5 Miscellaneous Meetings

The ICA attends selected planning and job-site meetings in order to remain informed on construction progress and to update parties involved in commissioning. The CM provide the ICA with information regarding substitutions, change orders and any Architect’s Supplemental Instructions (ASI) that may affect commissioning equipment, systems or the commissioning schedule. The ICA may review construction meeting minutes, change orders or ASIs for the same purpose.

Later during construction, necessary meetings between various commissioning team parties will be scheduled by the ICA, through the CM, as required.

5.6 Miscellaneous Management Protocols

The following protocols will be used on this project.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>For requests for information (RFI) or formal documentation requests:</td>
<td>The ICA goes first: ___ direct to Sub or A/E, ___ through the CM, _ ____through GC.</td>
</tr>
<tr>
<td>For minor or verbal information and clarifications:</td>
<td>The ICA goes direct to the informed party. Alert CM and A/E of direction, usually by email.</td>
</tr>
<tr>
<td>For notifying contractors of deficiencies:</td>
<td>The ICA documents deficiencies through the A/E &amp; CM by e-mail, but may discuss deficiency issues with contractors prior to notifying the A/E or CM.</td>
</tr>
<tr>
<td>For scheduling functional tests or training:</td>
<td><em>X</em> The ICA may provide input for and do some coordination of training and testing, but does all scheduling thru the CM.</td>
</tr>
</tbody>
</table>
For scheduling commissioning meetings:
The ICA selects the date and schedules through the:  
___GC, _X_CM.  
___The CA schedules and notifies attendees directly.

For making a request for significant changes:
The ICA has no authority to issue change orders. This will come thru the A/E, OR and CM procedures established.

For making small changes in specified sequences of operations:
_X__The ICA may make small sequences of operations changes to improve efficiency or control or to correct deficiencies, through the responsible contractor, but shall document the change and provide all changes of specified sequences to the CM and A/E.

___The ICA may not make changes to specified sequences without approval from the A/E.

Subcontractors disagreeing with requests or interpretations by the ICA shall:
Try and resolve with the ICA first. Then work through CM who will work with ICA directly or through the A/E to resolve the situation.

5.7 Progress Reporting and Logs
As progress construction progresses, the ICA provides the CM with monthly commissioning progress reports on his readiness check. Thirty (30) days prior to the startup of the first piece of major equipment, the frequency of progress reports is increased as required, until startup is completed. Thirty (30) days before functional testing of equipment begins, frequent progress reports are required until functional testing and all non-conformance issues are resolved. The CM may adjust the reporting frequency as needed. The progress reports contain: an update of the schedule with list of requested schedule changes and new items added to the schedule, a list of new and outstanding deficiencies, a description of commissioning progress corresponding to the plan, etc. E-mails or meeting minutes will provide a format for this report. The ICA keeps a log of all commissioning-related issues that require current or future attention and will be included in the turnover notebook. The Commissioning Schedule will be updated to provide a form for tracking the status of documentation and testing for each piece of equipment and system (e.g., installer, party responsible for startup, approval dates for checklist and testing forms, their completion, training, O&M documentation review, etc.), with appropriate notes and actions required.

The ICA regularly communicates with the CM, keeping them apprised of the Commissioning process, and scheduling issues through memos, progress reports, e-mails, etc.

The ICA will keep all commissioning materials in an organized notebook.

5.8 Initial Submittals and Documentation
5.8.1 Standard Submittals
The ICA provides all Subs responsible for commissioned equipment with commissioning documentation requirements for their respective equipment and systems through the CM (check sheets). At minimum, this equipment data includes installation and start-up procedures, O&M data, performance data and control drawings. The ICA shall receive “approved” copies of submittals relative to commissioning
issues expressed in the contract documents from the CM, all comments concerning submittals shall be directed to the CM submitted on RFI’s provides documentation request and tracking forms for representative equipment and acts as the tracking mechanism for documentation. It can also be used as the checkoff sheet for part of the final O&M documentation review. CA recommendations are provided to the A/E, owner or CM as directed.

5.8.2 Special Submittals, Notifications and Clarifications
The Contractors, Subs, CM or A/E notify the ICA of any new design intent or operating parameter changes, added control strategies and sequences of operation, or other change orders that may affect commissioned systems. The controls contractor provides the ICA a full points list with details requested by the ICA Thirty (30) days prior to performing owner-contracted tests, the Subs provide the ICA full details of the procedures. As the phases of the TAB are completed, a copy of the draft TAB reports is provided to the A/E by the CM with full explanations of approach, methods, results, data table legends, etc., as noted in the Specifications. A/E shall notify CM of significant deficiencies, which will be transferred to the ICA, and appropriate sub-contractors with direction to meet design criteria by the A/E. The ICA may submit written RFI’s to the A/E through the CM. A copy of the final TAB report shall be provided to the ICA upon completion, for review and inclusion in the turnover documents.

5.9 Prefunctional Checklists (Readiness Check), Tests and Startup (See 1.4 above for the items covered)
Prefunctional checklists (PC) are important to ensure that the equipment and systems are hooked up and operational and that functional performance testing may proceed without unnecessary delays. Each piece of equipment receives full prefunctional checkout by the Contractor. No sampling strategies are used. In general, the prefunctional testing for a given system, must be successfully completed prior to formal functional performance testing of equipment or subsystems of the given system.

Prefunctional checklists are primarily static inspections and procedures to prepare the equipment or system for initial operation (e.g., oil levels OK, fan belt tension, labels affixed, gages in place, sensor calibration, etc.). However, some prefunctional checklist items entail simple testing of the function of a component, a piece of equipment or system (such as rotation direction, pressure testing, measuring the voltage imbalance on a three phase pump motor of a chiller system). The word prefunctional refers to before start-up and then functional testing. Prefunctional checklists augment and are combined with the manufacturer’s start-up checklist.

Contractors typically already perform some, if not many, of the prefunctional checklist items the commissioning authority will recommend. However, few contractors document in writing the execution of these checklist items. This project requires that the procedures be documented in writing by the installing technician. The ICA does not witness much of the prefunctional checklisting, except for testing of larger or more critical pieces of equipment and some spot-checking. (The ICA will conduct his own Prefunctional check during his construction site reviews.)

5.9.1 Start-up Plan
The ICA assists the commissioning team members responsible for startup in developing detailed start-up plans for all equipment. The parties responsible for each part of startup and initial checkout are identified on the equipment check sheets and on the prefunctional checklists.
A. **The following procedures will be used for this project:** (the ICA is responsible for the plan development):

1. The ICA adapts and enhances, if necessary, the representative prefunctional checklists (PC) and procedures from those listed in Specifications, and develops original lists, as necessary.
2. The ICA obtains manufacturer installation, startup and checkout data, including actual field checkout sheets used by the field technicians from the contractor (through an RFI).
3. The ICA copies all pages with important instructional data and procedures from the startup and checkout manuals not covered in manufacturer field checkout sheets and adds a signature line in the column by each procedure.
4. The copied pages from (2), along with the prefunctional checklist provided by the ICA and the manufacturer field checkout sheets become the “Startup and Checkout Plan.”, provides a cover sheet and template for the startup plan.
5. For systems that may not have adequate manufacturer startup and checkout procedures, particularly for components being integrated with other equipment, the Sub should provide the added necessary detail and documenting format to the ICA for approval, prior to execution.
6. The ICA transmits the full Startup Plan to the CM, who designates which trade or contractor is responsible to fill out each line item (mark in the “Contr” column) on the Prefunctional Checklist from the ICA. The CM then transmits the full start-up plan to the Subs for their review and use. (This usually means that the Prefunctional Checklist, alone, will go to more than one Sub, while the full plan will go to the primary installing contractor.)

### 5.9.2 Execution of Checklists and Startup

Four weeks prior to startup, the Subs and vendors schedule startup and initial checkout with the CM and ICA. The startup and initial checkout are directed and executed by the Sub or vendor. The ICA, and CM if necessary, observe, at minimum, the procedures for each piece of primary equipment. To document the process of startup and checkout, the site technician performing the line item task initials and dates each paragraph of procedures in the “Startup Plan” and checks off items on the prefunctional and manufacturer field checkout sheets, as they are completed. Only individuals having direct knowledge of a line item being completed shall check or initial the forms.

The Subs and vendors execute the checklists and tests and submit a signed copy of the completed start-up and prefunctional tests and checklists to the ICA. The ICA may review prefunctional checklists in progress, as necessary. On smaller equipment or projects, the checklists (which all contain more than one trade’s responsibility), may be passed around to the Subs to fill out. For larger projects, each trade may need a full form and the ICA will consolidate them later. The check lists submitted for manufacturer’s start-up will be included in the ICA turnover notebook.

### 5.9.3 Sampling Strategy for ICA Observation of Prefunctional Checkout and Startup

The following table provides a tentative list of the equipment and how much of the prefunctional checkout and startup work will be witnessed by the ICA.
<table>
<thead>
<tr>
<th>Equipment or System</th>
<th>Fraction To Be Observed by ICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe flushing, leak testing &amp; chem. treatment</td>
<td>At end, with CM sign-off on flushing report &amp; leak test and chem. Test reports.</td>
</tr>
<tr>
<td>AHU’s, split systems, packaged units, ERU’s</td>
<td>100%</td>
</tr>
<tr>
<td>Building automation system</td>
<td>Observe <em>4</em> hours of checkout and calibration – 100% function testing</td>
</tr>
<tr>
<td>TAB work</td>
<td>Observe <em>2</em> hours of TAB &amp; sample reading – 5%</td>
</tr>
<tr>
<td>Other misc. equipment</td>
<td>As necessary</td>
</tr>
<tr>
<td>Volume dampers &amp; louvers</td>
<td>10%, confirmed are marked.</td>
</tr>
<tr>
<td>Fire Alarm</td>
<td>Units shutdown thru the BAS/ &amp; all smoke alarms; present at the Fire Marshal’s review</td>
</tr>
<tr>
<td>Vibration Isolation &amp; Seismic</td>
<td>50%</td>
</tr>
<tr>
<td>ATC Valves &amp; Dampers &amp; sequence</td>
<td>100%</td>
</tr>
<tr>
<td>Pumps &amp; VFD &amp; Vib. Pads</td>
<td>100% (if required)</td>
</tr>
<tr>
<td>VRF Systems</td>
<td>100% (if required)</td>
</tr>
<tr>
<td>Duct Cleaning, leak testing, fire dampers, louvers &amp; dampers.</td>
<td>Sample 5 pieces &amp; reports submitted &amp; test FD’s by TAB &amp; Fire Marshal with MC.</td>
</tr>
<tr>
<td>Fans (Exhaust, Transfer, etc.)</td>
<td>100%</td>
</tr>
<tr>
<td>Unit heaters &amp; CUH’s</td>
<td>100%</td>
</tr>
<tr>
<td>Ductless Split Systems</td>
<td>100%</td>
</tr>
<tr>
<td>Kitchen Hood &amp; Supply/Exhaust Unit &amp; Fire Suppression System with Fire Marshal</td>
<td>100%</td>
</tr>
<tr>
<td>Fin Tube Radiation &amp; in-slab floor heating</td>
<td>100%</td>
</tr>
<tr>
<td>BAS</td>
<td>100%</td>
</tr>
<tr>
<td>Plumbing</td>
<td></td>
</tr>
<tr>
<td>Water Heaters, Pumps, &amp; Ancillary Equipment</td>
<td>100% (if required)</td>
</tr>
<tr>
<td>Sprinkler System &amp; Fire Pump (if required)</td>
<td>Sample 5% with Fire Marshal Review</td>
</tr>
<tr>
<td>Piping gas &amp; domestic with tests</td>
<td>Review tests observed and signed off by CM.</td>
</tr>
<tr>
<td>Plumbing Fixtures</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Electrical**
5.9.4 Deficiencies and Non-Conformance
The Subs clearly list any outstanding items of the initial start-up and prefunctional procedures that were not completed successfully at the bottom of the procedures form or on an attached sheet. An e-mail listing and deficiencies are provided to the ICA within two days of test completion. The ICA works with the Subs and vendors to correct and retest deficiencies or uncompleted items, involving the CM and others as necessary. The installing Subs or vendors correct all areas that are deficient or incomplete according to the checklists and tests. The ICA recommends approval of the startup and initial checkout of each system to the CM in writing. Further details are found in the Specifications Sections 230000 and 260000.

On equipment or systems requiring more than two (2) tests, they will be charged for the ICA based on travel and site time at $150/hr, mileage and tools. Payment will be through the CM, and deducted from any invoice submitted by the Contractor for payment.

5.9.5 Phased Commissioning
Because of project size, this project _X_ will require, ___ will not require startup and initial checkout to be executed in phases, with summer cooling waiting until the weather changes on heating.

5.9.6 TAB
The TAB Contractor submits the outline of the TAB plan four (4) weeks “prior” to starting the TAB, and approach to the CM for distribution to the A/E, ICA, MC, and CC for review. Included in the approach, is an explanation of the intended use of the building control system. The ICA reviews the plan and approach for understanding and coordination issues and may comment, but does not “approve.” The controls contractor reviews the feasibility of using the building control system for assistance in the TAB work. The TAB submits weekly written reports of discrepancies, contract interpretation requests and lists of completed tests to the ICA and CM. This facilitates quicker resolution of problems and will result in a more complete TAB before functional testing begins. A checklist form for reviewing the TAB plan is provided as one of the prefunctional checklists in Specifications.

TAB work will not begin until the control system has been prefunctionally tested and selective functional tests have been performed and approved by the ICA.
5.9.7 Controls Checkout Plan

The CC develops, and submits a written step-by-step controls plan to the CM for distribution to the A/E, ICA and MC which describes the process they intend to follow in checking out the control system, and the forms they intend to use to document the process. The controls contractor will also meet with the TAB contractor prior to the start of TAB and review the TAB plan to determine the capabilities of the control system for use in TAB. The controls contractor will provide the TAB with any necessary unique instruments for setting terminal unit boxes and instruct TAB in their use (handheld control system interface for use around the building during TAB, etc.). The controls contractor shall also provide a technician qualified to operate the controls to assist the TAB contractor in performing TAB. Additional details are found in Specifications Section 230950.

All ICA-required controls prefunctional checklists, calibrations, start-up and selected functional tests of the system shall be completed and approved by the ICA prior to TAB. The controls contractor shall execute the tests and trend logs assigned to them in Section 230900 and remain on site for assistance for mechanical system functional tests as specified in the same sections. All MOD’s and control valve shall be cycled to the acceptance of the ICA prior to the functional testing.

5.10 Development of Functional Test and Verification Procedures

5.10.1 Overview

Functional testing is the dynamic testing of systems (rather than just components) under full operation (e.g., the chiller pump is tested interactively with the chiller functions to see if the pump ramps up and down to maintain the differential pressure setpoint). Systems are tested under various modes, such as during low cooling or heating loads, high loads, component failures, varying outside air temperatures, fire alarm, etc. The systems are run through all of the control system’s sequences of operation and components are verified to be responding as the sequences state. The commissioning authority develops the functional test procedures in a sequential written form, coordinates, oversees and documents the actual testing, which is usually performed by the installing contractor or vendor.

5.10.2 Scope of Testing [Bid Docs]

The specification “Testing Requirements” Section 260000 provide specific functional testing scope for each piece of commissioned equipment. A detailed description of the functional and prefunctional testing procedures and process is per the specifications and those listed above.

5.10.3 Development Process

Before test procedures are written, the ICA obtains all requested documentation and a current list of change orders affecting equipment or systems, including an updated points list, control sequences and setpoints. The ICA develops specific test procedures to verify proper operation of each piece of equipment and system. The ICA obtains clarification, as needed, from contractors and the A/E regarding sequences and operation to develop these tests. Prior to execution, the ICA provides a copy of the primary equipment tests to the installing Sub (via the CM) who reviews the tests for feasibility, safety, warranty and equipment protection. Blank copies of the procedures are input into the O&M manuals for later use by operations staff. Functional testing and verification may be achieved by manual testing (persons manipulate the equipment and observe performance) or by monitoring the performance and analyzing the results using the control system’s trend log capabilities or by stand-alone dataloggers. The ICA follows the Specifications when given and uses judgement where needed to determine which method is most appropriate. According to the Specifications, not all pieces of identical equipment receive in-depth testing. The ICA reviews owner-contracted, factory or required owner acceptance tests and
determines what further testing may be required to comply with the Specifications. Redundancy is
minimized, but after two retests, compensation for the ICA thru the CM will be pursued.

5.10.4 Testing Plan Overview

To provide the contractors with a better idea of where functional testing lies in the schedule, what issues
are preventing the start of testing, which contractors are needed for each test and how much time might
be expected from them, see detailed testing sheets. These forms are filled out after most equipment has
been started up and when functional testing dates are not too far off. The form is provided to the
Contractors to assist in moving more efficiently to functional testing.

5.11 Execution of Functional Testing Procedures

5.11.1 Overview and Process

The ICA schedules functional tests through the CM and affected Subs. For any given system, prior to
performing functional testing, the ICA waits until the prefunctional checklist has been submitted with the
necessary signatures, confirming that the system is ready for functional testing. The ICA oversees,
witnesses and documents the functional testing of all equipment and systems according to the
Specifications and the Cx Plan. The Subs execute the tests. The control system is tested before it is used
to verify performance of other components or systems. The air balancing and water balancing is
completed and debugged before functional testing of air-related or water-related equipment or systems.
Testing proceeds from components to subsystems to systems and finally to interlocks and connections
between systems. Refer to Section 6 for details on functional testing scope.

5.11.2 Deficiencies and Retesting

The ICA documents the results of the test. Corrections of minor deficiencies identified are made during
the tests at the discretion of the ICA. The ICA records the results of the test on the procedure or test
form. Deficiencies or non-conformance issues are noted and reported to the CM in writing by e-mail.
Subs correct deficiencies, notify the ICA thru the CM by e-mail. The ICA schedules retesting through
the CM. Decisions regarding deficiencies and corrections are made at as low a level as possible,
preferrably between ICA and the Sub. For areas in dispute, final authority, besides the Owner’s, resides
with the A/E. The ICA recommends acceptance of each test to the CM. The CM gives final approval on
each test using the testing sheet and signing off at the appropriate spot.

5.11.3 Facility Staff Participation

The Owner’s facilities operating staff are encouraged to attend and participate in the testing process.
The ICA will notify the _X_CM, ____PM, who will then notify the facility staff when the
commissioning events will occur thru the schedule.

5.11.4 Phased Testing

Refer to Section 5.9.5 for details regarding testing the equipment or systems in phases. Owner has
determined that summer and 10 months later winter test of equipment’s capacity is required and
Contractor assistance will be required.

5.11.5 Sampling

Multiple identical pieces of non-life-safety or otherwise non-critical equipment may be functionally
tested using a sampling strategy. The Specifications specify the sampling strategies that are used on this
project, as noted in 5.9.3 above.
5.12 O&M Manuals and Warranties

5.12.1 Standard O&M Manuals
The CM, and A/E review the O&M Manuals, equipment documentation, warranties and redline as-builts for the systems (Divisions 22, 23 and 26 Specifications) that were commissioned to verify compliance. The manuals are then submitted to the A/E for approval, and acceptance of these sections of the O&M Manuals. Refer to Specifications, and 5.11.2 commissioning Record for format.

5.12.2 Commissioning Record
The CA will compile, organize and index the following commissioning data by equipment into labeled, indexed and tabbed, three-ring binders and deliver it to the CM, to be included with the O&M manuals. The correspondence, meeting minutes and progress reports, miscellaneous notes, etc. kept in the Commissioning Record Book during construction will not be retained into this record and the O&M manuals. The format of the manual follows:

General
- **Tab I** Introduction/Summary/OPR’s
- **Tab II** Commissioning Plan – Construction Phase
- **Tab III** Final Commissioning Report
- **Tab IV** Issues Log (record of deficiencies, e-mail)
- **Tab V** Progress Record & Conclusions

Equipment Specific – Test Reports & Sign Off
- **Tab 01** System Type 1
  - **Sub-Tab A** Design narrative and criteria, sequences, approvals for Equipment 1 will be provided by the C.M.
  - **Sub-Tab III** Start-up plan and report, approvals, corrections, prefunctional checklists
  - **Sub-Tab III** Functional tests (completed), trending and analysis, approvals and corrections, training plan, record and approvals.
- **Tab 02** System Type 2......repeat as per System One (Plumbing followed by Electrical) Part of Tab III.

5.13 Training and Orientation of Owner Personnel
Owner training and orientation on equipment and systems provided by the Contractor is accomplished in three general steps using three forms.

1. **Overall Plan.** After reviewing the Specifications, the CM and OR shall fill out a table listing all of the equipment for training that will be provided, , and submit plan to the A/E for approval. The CC shall provide training for all components controlled by the BAC Building Automated System in accordance with Specification 230900 Instruction.

2. **Specific Training Agendas.** For each piece of equipment or system for which training is provided, the CM fill out Section of the Training and Orientation Agenda. This will include some of the information from above, regarding the scope of training and the intended audience, for reference by
the trainer in developing the training agenda. The CM develops a plan for including in the training session contractors / trainers from different disciplines, when appropriate, by listing their company names in Section 2 of the form. In particular, the controls contractor will provide brief training on controls in the same session with the mechanical training for equipment controlled by the building automation system.

This form is then submitted to the Contractor Trainer(s) to fill out the remainder of Sections 5 and on written submittal above, describing the subjects covered, duration of each subject, and methods that will be used in training. The trainer(s) returns this form to the CM for review “prior” to submitting the agenda to the A/E for final approval. The CM provides the approved agenda to the trainer(s) to use during training and provides a copy of the agenda to each trainee.

3. Training Record. For each piece of equipment, prior to training, the CM provides each trainer a form. On this form, the trainer documents each training session (duration, and general subjects covered). The trainer signs for the session, and obtains signatures of each trainee. The trainer also checks off subjects covered on the Agenda. When training is complete, the CM provides a copy of the Training Agenda, and Orientation Record to the Owner, A/E and ICA. All parties review, and approve before signing it. The ICA is to attend 100% of the relevant training sessions.

5.13.1 Special Training and Orientation
The following checked orientation and trainings will be completed by the ICA and A/E according to the specifications:

- **X** Recommissioning. The commissioning authority will provide instruction on the use of blank functional test forms for periodic recommissioning of equipment and systems, by the Owner.
- **X** Architect. The architect will provide a general overview of the facility, its use, special features, tenant and public considerations, etc., as related to LEED certification.
- **X** Mechanical Design Engineer. The mechanical designer will provide an overview of the major systems and equipment in the facility, including for each system: the design intent, why the system was chosen, an overview of its operation, and interactions with other systems, any special areas to be aware of, issues regarding future expansion and remodeling, etc. as related to LEED Certification.
- **X** Electrical Design Engineer. The electrical designer will provide an overview of the major electrical systems and equipment in the facility, particularly the lighting control systems, fire alarm, security and emergency power, focusing on the design intent, why the system was chosen, an overview of its operation, and interactions with other systems, any special areas to be aware of, issues regarding future expansion and remodeling, etc., as related to LEED certification.

5.14 Warranty Period
During the warranty period, seasonal testing and other deferred testing required is completed according to the Specifications, and a complete recommissioning LEED ® Enhanced 10 months after the project is turned over to the Owner. The CM coordinates this activity. Tests are executed and deficiencies corrected by the appropriate Subs, witnessed by facilities staff and the ICA. Any final adjustments to the O&M manuals and as-builts due to the testing are made for seasonal testing details for this project. The ICA may make suggestions for improvements and for recording these changes in the O&M manuals. The ICA will identify areas that may come under warranty or under the original construction contract. The ICA will also assist facility staff in developing reports and documents and requests for services to remedy outstanding problems.
6. **Written Work Products [Bid Docs]**

6.1 **Summary Report**
A final summary report by the ICA will be provided to the Architect and CM. The report shall include an executive summary, list of participants and roles, brief building description, overview of commissioning and testing scope and a general description of testing and verification methods. For each piece of commissioned equipment, the report should contain the disposition of the commissioning authority regarding the adequacy of the equipment, documentation and training meeting the contract documents in the following areas: 1) Equipment meeting the equipment specifications, 2) Equipment installation, 3) Functional performance and efficiency, 4) Equipment documentation and design intent, and 5) Operator training. All outstanding non-compliance items shall be specifically listed. Recommendations for improvement to equipment or operations, future actions, commissioning process changes, etc. shall also be listed. Each non-compliance issue shall be referenced to the specific functional test, inspection, trend log, etc. where the deficiency is documented. The functional performance and efficiency section for each piece of equipment shall include a brief description of the verification method used (manual testing, BAS trend logs, data loggers, etc.) and include observations and conclusions from the testing.

Appendices shall contain acquired sequence documentation, logs, meeting minutes, progress reports, deficiency lists, site visit reports, findings, unresolved issues, communications, etc. Prefunctional checklists and functional tests and monitoring data and analysis will be provided in a separate labeled binder.

The commissioning plan, the prefunctional checklists, functional tests and monitoring reports will not be part of the final report, but will be stored in the Commissioning Record in the O&M manuals, as described in the specification Sections 210000, 220000, 230000 and 260000.

7. **Schedule**

7.1 **General Issues [Bid Docs]**
The following sequential priorities are followed:

1. Equipment is not “temporarily” started (for heating or cooling), until pre-start checklist items and all manufacturer’s pre-start procedures are completed and moisture, dust and other environmental and building integrity issues have been addressed, and operation properly documented.

2. Functional testing is not to begin until prefunctional and start-up and TAB is completed, for a given system.

3. The controls system and equipment it controls are not functionally tested until all points have been calibrated and pre-functional testing completed.

4. TAB is not performed until the controls system has been sufficiently functionally tested and approved by the ICA for TAB work.

5. TAB is not performed until the envelope is completely enclosed and ceiling complete, unless the return are is ducted.

7.2 **Project Schedule**
The initial commissioning schedule is summarized in Table 7-1 below. A more detailed schedule is to be issued at a later date by the CM and ICA.
### Table 7-1. Initial Commissioning Schedule Summary

<table>
<thead>
<tr>
<th>Task / Activity</th>
<th>Estimated Start Date</th>
<th>Estimated End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial scoping meeting and final plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Submittals obtained and reviewed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Begin construction site visits/inspections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prefunctional forms developed and distributed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Startup and initial checkout plans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Startup and initial checkout executed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAB Water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAB Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Functional performance tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O&amp;M documentation review and verification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training and training verification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final commissioning report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seasonal testing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Fill in with CM)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Fill in with CM)