Project Manual
For
ADA Courthouse Parking Improvements/Pedestrian Crosswalk
Forsyth County Courthouse
100 W Courthouse Square
Cumming, GA 30040

Owner:
Forsyth County Public Facilities
514 West Maple Street
Suite 1201
Cumming, GA 30040

Architect:
Jericho Design Group, LLC
102 Mary Alice Park Drive
Cumming, Georgia
Phone: 470.529.1043

JDG Project No. 21016

Release for Bid
August 20, 2021

SPECIFICATION INDEX

END OF INDEX

EXHIBIT "D"
August 20, 2021

Forsyth County Department of Public Facilities
Capital Projects

STANDARD CONSTRUCTION SCOPE EXHIBIT

A. GENERAL

1.) *"Provide"* shall mean furnished and installed complete.
2.) *"Contractor"* includes the General Contractor and all sub-contractors that fall under General Contractor's executed agreement with Owner/General Contractor.
3.) Contractor shall provide all supervision, labor, equipment, tools, supplies and materials to provide the complete project scope of work.
4.) By entering into contract with the Owner Contractor confirms that he is an expert in this field of work and is fully knowledgeable and experienced in all aspects of procedures, methods, regulations, codes and municipal requirements and Contractor further acknowledges that the Owner is relying on this expertise.
5.) Contractor shall provide all work in accordance with the latest edition of the International Building Code (IBC) recognized by the State of Georgia.
6.) Contractor shall perform all work in accordance with the most current version of the regulation of the Federal Occupational Safety and Health Act (OSHA).
7.) All quantities shown on the plans are for accounting and/or permitting purposes only and are not to be used for bid pricing. Contractor shall determine its bid price based on the information which is inferable within the complete bid documents.
8.) Architect's and/or Engineers schedules contained within construction plans or specifications are a theoretical, schematic, order of magnitude estimate which do not reflect the actual start project dates and shall not to be used by the contractor for quantifying costs associated with its construction schedule. The contractor is responsible to determine its construction schedule unless the bid documents specifically require a maximum construction schedule duration.
9.) Contractor shall provide own scaffold, lifts, and/or ladders and all other equipment, plant, tools, shoring required to complete this project.
10.) All special inspections required by the project specifications shall be scheduled by the contractor with the owners third party inspection firm. Completion of any work without the required inspections shall be cause for the contactor to remove the uninspected work to the satisfaction of the owner, engineer, inspector and replace of the work in accordance with the specification as and inspectors requirements, at the sole cost of the contractor.
11.) All goods and materials to be furnished and installed consistent with the manufacture's recommendations.
12.) In absence of specifications the most applicable State of Georgia standard specification shall apply as determined by the owner.
13.) Perform asbestos testing in conformance with EPD regulations prior to performing any demolition work.
14.) Contractor is responsible for daily cleanup of the work area including removal and proper disposal of trash and debris to the satisfaction of the owner and/or architect, including but not limited to a minimum of 1 full man-day of clean-up per week of the construction schedule.
15.) No construction staging and/or lane closures permitted on State Route 20 (ie: Veterans Memorial Blvd.) between North Main Street and Maple Street.

B. SITE WORK

1.) General Contractor shall provide a qualified third party storm water inspection firm for all post rain fall water quality inspections, sampling and lab testing, weekly BMP inspections and distribute reports directly to the Owner and Architect.
2.) Contractor shall provide a rain meter and maintain a daily log of precipitation at the site, perform daily BMP inspections to continuously maintain and provide repairs of the BMPs required by the erosion control plans.
3.) Manage all site work and stormwater drainage in a manner consistent with the erosion control plans.
4.) Install temporary berms, dams, ditches, temporary french-drains and any and all other means-and-methods necessary

to maintain constant drainage of stormwater from the site and away from buildings. Provide concrete sump pits and submersible pumps with floats to automatically operate 24 hours a day to constantly evacuate stormwater from low areas with no drainage during construction, consistent with the erosion control plans.

5.) Cover stockpiles slopes and low areas with plastic prior to rain events.
6.) Soils containing moisture levels inadequate to achieve the specified compaction requirements shall not under any circumstances be classified as unsuitable based on moisture content.
7.) Implement aeration and/or lime treatment to dry wet soils, as required to maintain the project schedule.
8.) Natural air drying of saturated soils is not an acceptable mean-and-method for critical path work.
9.) Provide and maintain temporary construction fencing with screening around all site work.
10.) Contractor is responsible for implementing any and all security measures required to protect its work, the work site, circulation of its construction operations and the public; including but not limited to trespassing, vandalism, theft, accidents, injury and/or death.
11.) Traffic control shall be provided incompliance the latest version of the Manual on Uniform Traffic Control Devices. Contractor will provide construction layout in accordance with Section 149 prior to beginning any construction work. Construction that requires lane closure or interferes with the traffic will be limited between 9 AM until 4 PM.
12.) Traffic control shall be provided incompliance the latest version of the Manual on Uniform Traffic Control Devices. Contractor will provide construction layout and staging in accordance with Section 149 prior to beginning any construction work. Construction that requires lane closure or interferes with the traffic will be limited between 9 AM until 4 PM. No work is permitted on public roads on Sundays. Work occurring before 9 AM and/or after 4 PM must be requested and approved by the owner. Work on Saturdays must be requested and approved by the owner. All work on state routes must be performed in accordance with all applicable state encroachment requirements.
13.) Prior to beginning work, the contractor shall perform a private underground utility locate of the site.
14.) Contractor shall perform excavations in accordance with OSHA 1926 Subpart P and O.C.G.A. Title 25 chapter 9 (2017).
15.) Contractor shall provide hand potholing and/or hydro-vac of all existing underground infrastructure, occurring within 2 feet or less horizontally from the side of infrastructure to the side of excavation, to determine the exact location of infrastructure items.
16.) Contractor shall provide a surveyor licensed in the state of Georgia to provide all layout required for the construction of its work.
17.) Water, sewer and storm drain line work shall include all bends, connection, spacers, gaskets, blocking, testing, and purification required by Forsyth County Water Department or their standards.
18.) Rocks and boulders are common throughout Forsyth county and shall be anticipated within the zone of excavation.
19.) Contractor shall include root and rock picking as needed for earthwork.
20.) Contractor shall restore disturbed grades smooth and provide grassing upon completion of work. All areas of grassing, re-grassing, repair or restoration that have not grown-in to the satisfaction of the owner/architect within 30 days of seeding, shall be completely provided with new sod, by the contractor.

C. INFRASTRUCTURE

1.) All utility service work/interruptions made before the meter are to be coordinated and provided turnkey by the contractor.
2.) All utilities service interruptions made after the meter are to be shut-down and turned-on by Forsyth County Public Facilities Maintenance and must be scheduled a minimum of 48 hours in advance. (Submit all service interruption requests to the Project Manager)

D. PROJECT MANAGEMENT

1.) Contractor shall utilize owners on-line project management application for all project documents including but not limited to, all project plans specification and any revisions; RFI's, ASI's, submittals, project cash flow projection, schedule of values, critical path method construction schedule, pay applications, project executive summaries, Contractors executed copy of the contract and all change orders; all potential and active change issues; daily field reports, inclement weather logs and site photos; inspections reports (including owner provided inspections, if any), Owner/Architect/Contractor, OAC meeting minutes; Punch lists, closeout documents, project contact directory. ***Software and training will be provided by the owner at no cost to Contractor***. Contractor shall seek and participate in any training necessary to utilize owner's software.
2.) Approvals of all Cost Change Proposals in owner's on-line project management application means, *"Approval for recommendation to Forsyth County Director of Procurement and/or Board of Commissioners".*
3.) Daily field reports to include weather description, temperature, inches of rain, wind conditions, active trades, general work areas and active work hours. Daily field reports are due each Monday for the week prior.
4.) Contractor shall keep logs of all active RFI's, submittals, cost issues, pay applications, weather delays, field issues, upcoming work. All logs shall be updated and presented at each OAC meeting.
5.) Draft pay applications shall be submitted by the 1st of each month for the previous month.
6.) The Contractor shall submit a Schedule of Values, project Cashflow Projection and a detailed cost-loaded critical

path method schedule, within 2 days of receiving a PO or within 10 days of receiving a notice to proceed.

7.) Prior to approval of it's first pay application, Contractor shall submit a complete closeout procedure schedule, schedule of values and a project cashflow projection.

8.) The project cashflow projection shall indicate the projected percentage of the original contract value for each pay application through the entire project including the cumulative percentage shown separately.

9.) As a condition precedent to approval of monthly pay applications, the contractor shall update all project documents on owner's on-line project management application.

10.) The Contractor's draft pay application must be reviewed at one OAC meeting prior to the pay application deadline.

11.) Schedules shall be provided in Critical path method format, cost-loaded, broken down by sequential phases of each trade and individual sub-trade work category's, sensitive/critical/major activities and milestones, and include building system and infrastructure service interruptions. Contractor shall update and submit the construction schedule monthly on a monthly basis or more frequently.

12.) Contractor shall hold OAC (Owner, Architect & Contractor) meetings as required to the satisfaction of the architect and owner, record all meeting minutes and submit all meeting minutes within 48 hours following each meeting. Contractors Project Manager and Superintendent are required to attend all OAC meetings.

13.) Contractor shall provide monthly executive summary consisting of major milestones, safety issues, costs and or schedule impacts and progress photos, at the time of each pay application.

14.) Contractor shall provide adequate project management, administrative and accounting personnel to ensure the project is run smoothly and expeditiously, inclusive of a full-time on-site English-speaking Superintendent. Project management, administrative and accounting, superintending personnel cannot be the same person.

15.) Contractor's Subcontractor's shall provide a qualified, competent, English speaking, full-time on-site supervisors.

16.) Contractor shall include a set of redline as-builts on the conformed for closeout set of plans provided by the architect at the end of the project.

17.) Contractor includes the cost of material escalation and availability of goods through final completion of the work in the original contract price.

18.) Procurement, delivery and/or storage of goods and materials shall not constitute right for payment until installed in its final condition and accepted by the owner; unless, the goods and materials are delivered to a secure, bonded warehouse facility and the county is provided a bill of sale for all goods and materials. Owner reserves the right to inspect and approve the proposed warehouse facility prior to acceptance of goods and materials. Payment for goods and materials shall not constitute acceptance by the owner.

19.) Contractor shall immediately notify the architect and Forsyth County Capital Projects Manager of new or potential cost impact items. Submit formal notification of cost issue to the architect and copy the Capital Projects Manager.

20.) Contractor to present formal change order requests in one or more OAC meetings prior to recommendation for contract change order.

21.) Contractor's change order request shall be submitted on the county's change order form and include all the following back-up information:

   a. A narrative of the circumstances surrounding the cost issue.
   b. The date, time and location the cost issue was discovered.
   c. The date, time that the issue was first reported to the owner's representative, in writing.
   d. All COR detail shall be provided on a material, labor and equipment basis and separated per logical sequence of the work for each issue with quote back-up for material costs.
   e. A detailed breakdown of quantities.
   f. Attachments with mark-ups of plans and details to clarify the COR scope of work.
   g. Assumptions of production shall be justified in accordance with performance of actual work that was completed on the same project, that the contractor has self-performed, under similar conditions.

22.) All change orders are approved by procurement in accordance with the contract.

23.) Contractor shall take all pictures and video necessary to document the existing site conditions immediately prior to contractor's mobilization and notify owner of specific existing damage to surfaces or areas in contractors work area(s) prior to commencing work. Commencement of work shall constitute Contractors acceptance of all existing conditions.

24.) Should any of the items enumerated herein conflict or contradict any other requirements set forth in the entirety of the contract documents, the more stringent and highest level of quality requirement shall govern.

Forsyth County Department of Public Facilities

Capital Projects

SPECIFIC SCOPE

PROJECT:

New Main Court House ADA Parking Lot

A. SITE ADDRESS

- County Superior Court House, 101 East Courthouse Square, Cumming, GA 30040

B. WORK HOURS

- Include consecutive 10-hour workdays, 6 days a week, Monday through Saturday, until the work is complete.

  a.) City of Cumming Work Hour Restrictions *(Sec. 16-34. - Noise control c. (5))*
  Restricted between 11:00 p.m. and 6:00 a.m.
  Contractor must obtain a variance to modify restrictions

C. SECURITY PROCEDURES

- All contractors' personnel, subcontractors and/or vendors working in the building must complete a GCIC background check at the Forsyth County Annex Building (100 W Courthouse Square, Cumming, GA 30040) prior to entering the secured work area, ($20 each). Forsyth County reserves the right to refuse entry into secured areas at any time, for any reason, what-so-ever. Contractor to obtain authorization from the Procurement Department and present when requesting background check from the Sheriff's Office.

D. SCHEDULE

- Contractor to provide a detailed schedule and review with owner prior to commencing the work.
- Schedule shall indicate any project specific:
  a.) Work that will cause increased level of disruption to County Operations
  b.) Any information or coordination from the county and its service providers.
  c.) All facility infrastructure interruptions, (electrical/water/gas/network, etc…)

  ***All facility infrastructure shutdowns shall be scheduled with Project Manager no less than 48 hours in advance and performed by Facilities Maintenance personnel, only. ***

E. SCOPE NARRATIVE

This project consists of two work areas located in the city of Cumming Square, a new ADA parking lot.

The new ADA parking lot is located at the north side of the new County Superior Court Building, opposite of the county administration building, including a cross walk to the administration building parking deck, guard railing along the opposite side of the street to detour mid-street pedestrian crossings, and site security features to preclude vehicle access beyond the new parking lot.

F. BID DOCUMENT ATTACHMENTS

- FORSYTH COUNTY ADA COURTHOUSE PARKING IMPROVEMENTS/PEDESTRIAN CROSSWALK, by Jericho Design Group, dated August 20, 2021.
- Exhibit C - FORSYTH COUNTY ADA COURTHOUSE PARKING IMPROVEMENTS/PEDESTRIAN

CROSSWALK, dated August 20, 2021.

- Exhibit D - STANDARD CONSTRUCTION SCOPE EXHIBIT, dated August 20, 2021.

SECTION 01 1113
SUMMARY OF WORK WITHIN THE CONTRACT

PART 1 GENERAL

1.01 DESCRIPTION

A. The intent and meaning of the Contract Documents is that the General Contractor, under the terms of the Contract, shall take all actions necessary and required to provide all labor, materials, supplies, equipment, transportation, facilities, services, and appurtenances which are indicated or implied by each Drawing and each Section of the Specifications, all of which are collectively necessary and required for the construction of the described project.

1.02 DEFINITIONS

A. Specific definitions related to terminology of this Section include, but are not limited to the following:
   1. Work: Refer to the General Conditions
   2. Project: Refer to the General Conditions; the terms "Work" and "Project" have substantially the same meaning in these contract documents; because, substantially, the work of the Contract is recognized to be the complete project.
   3. Other Definitions: Refer to other portions of the Contract Documents.

PART 2 PRODUCTS

2.01 No Products are required for this Section.

PART 3 EXECUTION

3.01 PROJECT IDENTIFICATION

A. The Work of this Contract includes Drawings and Specifications referred to in the Contract Documents identified by the Title:

ADA Courthouse Parking
Forsyth County Courthouse
100 W Courthouse Square
Cumming, GA 30040

B. The Drawings and Specifications are further identified by the Index Of Drawings appearing on the Cover Sheet of the Drawings and by the Specification Index appearing in the front of this Project Manual.

3.02 SUMMARY OF WORK

A. The work can be summarized by reference to the requirements of the various Contract Documents, which in turn make reference to the requirements of other applicable provisions which control or influence the work; and these references can be summarized but are not necessarily limited to the following:
B. The Drawings and Specifications.
C. The Executed Owner-Contractor Agreement (not bound herewith).
D. The General and Supplementary Conditions (in this manual).
E. The Addenda and Modifications to the Contract Documents, distributed by transmittal subsequent to the binding thereof.
F. Governing regulations which have a bearing on the performance of the work: Copies can be obtained from or reviewed at the Local, State or Federal Agency responsible for the regulation in each case.
G. Submittals, (of every kind): Copies of which are retained by the contractor at the site.
H. Miscellaneous elements of information having a bearing on the performance of the work, such as weather forecasts and reports of general trade union negotiations; copies must be obtained by the Contractor through normal channels of information.

I. Verbal (written) summary: Briefly and without force and effect on the requirements of the Contract, the project can be described in summary as follows:

J. ADA Courthouse Parking Improvements / Pedestrian Crosswalk, Forsyth County Courthouse, 100 W Courthouse Square, Cumming, GA 30040.

1. Installation of 5 ADA parking spaces in the existing landscape area on the north side of the existing courthouse building.
2. Re-grading the area to provide pedestrian access from the new parking spaces and from the street sidewalk.
3. New asphalt pavement, concrete curb & gutter, signage and striping will be installed.
4. Underground irrigation, storm water detention, water quality unit and storm water inlets will be installed.
5. Existing planters will be removed, stored and replaced after construction.
6. New decorative and standard bollards and gates will be included in the new design.

END OF SECTION

SECTION 01 2200
UNIT PRICES

PART 1 GENERAL

1.01 SUMMARY

A. Furnish within prescribed locations on the Bid/Proposal Form, the following Unit Prices for the accomplishment of work beyond the scope of work required of the Base Bid/Proposal, but necessary for the satisfactory completion of the work and authorized by the Owner through the Architect.

1.02 DEFINITIONS

A. Unit price is a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.03 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
B. Quantities are established for Unit Pricing in the event of unforeseen conditions require remediation. Unit pricing shall be valid and made part of the base bid scope of services.
C. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
D. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

PART 2 PRODUCTS

2.01 PRODUCTS

A. Not Used.

PART 3 EXECUTION

3.01 UNIT PRICES

A. Reference Bid Tab for unit prices.

END OF SECTION

SECTION 01 2600
WEATHER DELAYS

PART 1 GENERAL

1.01 EXTENSIONS OF CONTRACT TIME

A. If the basis exists for an extension of time in accordance with the General Conditions, an extension of time on the basis of weather may be granted only for the number of Weather Delay Days in excess of the number of days listed as the Standard Baseline for that month.

1.02 STANDARD BASELINE FOR AVERAGE CLIMATIC RANGE

A. Actual inclement weather days shall be determined via NOAA historical weather data connected to the address or latitude and longitude of the job site. Extension of the contract schedule for inclement weather delay will be requested on each pay application. Only critical path site work can be considered inclement weather delay. Work in interior spaces will not be considered for inclement weather delay unless extenuating circumstances are determined by the Architect/Owner. The Contractor shall not be entitled to an extension of the contract time due to normal inclement weather, unless the Contractor can substantiate to the satisfaction of the Owner/Architect that there was greater than normal inclement weather, considering the full term of the contract, and that such greater than normal inclement weather actually delayed the work.

B. Standard Baseline is defined as the normal number of calendar days for each month during which construction activity exposed to weather conditions is expected to be prevented and suspended by cause of adverse weather. Suspension of construction activity for the number of days each month as listed in the Standard Baseline is included in the Work and is not eligible for extension of Contract Time.

C. Standard Baseline is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12	12	10	8	6	5	5	5	5	6	8	10

1.03 ADVERSE WEATHER AND WEATHER DELAY DAYS

A. Adverse Weather is defined as the occurrence of one or more of the following conditions within a twenty-four (24) hour day that prevents construction activity exposed to weather conditions or access to the site:
   1. An actual inclement weather delay day shall qualify by any one or combination of the following conditions occurring during normal work hours, Monday through Friday:
      a) Wind speed exceeds 30 miles per hour for more than 3 hours – 1-day delay
      b) Temperature is below 32 degrees (F) for more than 3 hours – 1-day delay
   2. November through March:
      a) Precipitation greater than 0.25 inches on a single day = 1 delay day
      b) Precipitation greater than 0.5 inches on a single day = 1 day delay
   3. May through October:
      a) Precipitation greater than 0.5 inches on a single day = 1 delay day
      b) Precipitation greater than 1.0 inch on a single day = 1 day delay

B. Actual inclement weather days shall be determined via NOAA historical weather data connected to the address or latitude and longitude of the job site. Extension of the contract schedule for inclement weather delay will be requested on each pay application. Only critical path site work can be considered for inclement weather delay. Work in interior spaces will not be considered for inclement weather delay unless extenuating circumstances are determined by the Architect/Owner. The Contractor shall not be entitled to an extension of the contract time due to normal inclement weather, unless the Contractor can substantiate to the satisfaction of the Owner/Architect that there was greater than normal inclement weather, considering the full term of the contract, and that such greater than normal inclement weather actually delayed the work.

C. A Weather Delay Day may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the contractor's scheduled work day and critical path

construction activities were included in the day's schedule, including a weekend day or holiday if Contractor has scheduled construction activity that day.

D. Contractor shall take into account that certain construction activities are more affected by adverse weather and seasonal conditions than other activities, and that "dry-out" or "mud" days are not eligible to be counted as a Weather Delay Day until the standard baseline is exceeded. Hence, Contractor should allow for an appropriate number of additional days associated with the Standard Baseline days in which such applicable construction activities are expected to be prevented and suspended.

1.04 DOCUMENTATION AND SUBMITTALS

A. Submit daily jobsite work logs showing which and to what extent critical path construction activities have been affected by weather on a monthly basis.

B. Submit actual weather data to support claim for time extension obtained from nearest NOAA weather station or other independently verified source approved by Designer at beginning of project.

C. Use Standard Baseline data provided in this Section when documenting actual delays due to weather in excess of the average climatic range.

D. Organize claim and documentation to facilitate evaluation on a basis of calendar month periods, and submit in accordance with the procedures for Claims established in the General Conditions.

E. If an extension of the Contract Time is appropriate, such extension shall be made in accordance with the provisions of the General Conditions, and the applicable General Requirements.

PART 2 PRODUCTS

2.01 Part not used.

PART 3 EXECUTION

3.01 Part not used.

END OF SECTION

SECTION 01 2976
APPLICATION FOR PAYMENT

PART 1 GENERAL

1.01 DESCRIPTION

A. To enable an orderly and timely cash flow for work completed, the Contractor shall prepare requisitions for payment on a monthly basis during the construction period.

1.02 RELATED WORK

A. See Division 00 for additional requirements.

1.03 QUALITY ASSURANCE

A. Pay requisitions submitted must bear the signature of an official of the company and must be notarized. The signature must be that of the party who executed the agreement with the Owner or the first payment must be accompanied with a letter from the agreement signee stating the names of parties within the company who are authorized to execute documents on behalf of the company.

1.04 SUBMITTALS

A. Application For Payment: Submit payment application, in triplicate, on AIA Document G702 Application and Certificate for Payment, and on G703 Continuation Sheet, as required.
B. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
   1. List of subcontractors.
   2. Schedule of values.
   3. Contractor's construction schedule (preliminary if not final).
C. Affidavit And Interim Waiver Of Lien: Submit along with each application for payment following the first application for payment, the Affidavit and Interim Waiver Of Lien as attached to the end of this Section. The waiver of all liens shall be for the payment periods prior to the current payment period. The waiver shall be signed by a person authorized to sign payment requests.
D. Periodic Construction Photographs: Submit along with each application for payment following the first application for payment, as indicated in Division 01 Section "Photographic Documentation".
E. Payment forms should be submitted through the Architect so they will reach the Owner each month not later than the date shown on the Form of Agreement Between Owner and Contractor. A schedule will be developed by the successful Contractor and approved by Owner and Architect. The Contractor shall submit payment forms to the Architect a minimum of fifteen calendar days prior to the due date for submission to the Owner.

PART 2 PRODUCTS

2.01 No Products are required in this section.

PART 3 EXECUTION

3.01 APPLICATION

A. Applications for progress payments must be made on the forms specified by the Architect. Failure to make out the forms according to the instructions prescribed may cause its rejection and subsequent return to the Contractor for correction.
B. Draft pay applications shall be submitted by the 1st of each month for the previous month.
C. Prior to approval of it's first pay application, Contractor shall submit a complete closeout procedure schedule, schedule of values and a project cashflow projection.

3.02 PERCENTAGE OF PAYMENT

A. On, or about the tenth day of each month, ninety percent of the proportion of the Contract Sum properly allocated to labor, materials and equipment incorporated in the work and ninety percent of the portion of the Contract Sum properly allocated to materials and equipment suitably stored at the site or some other location agreed in writing by the parties, up to the twenty-fifth (25) day of the previous month, less the aggregate of previous payments in each case, shall be paid. Upon completion of 50% of the Work, and upon satisfaction of the Architect and Owner for completeness of the Work, the Owner will hold no additional Retainage until Substantial Completion. Upon Substantial Completion of the entire work, a sum sufficient to increase the total payments to ninety-five (95) percent, less the retainage as the Architect shall determine for all incompleted work and unsettled claims, shall be paid. Progress payments will be made for work completed and materials delivered and properly stored in accordance with the General Conditions.

3.03 SCHEDULE OF PAYMENTS

A. Payment on this Contract will be made on or before the tenth (10) of the month during the contract period.

3.04 LIMITS OF PAYMENT SCHEDULE

A. At the discretion of the Owner, no progress payments will be issued to the Contractor after the scheduled Substantial Completion date until Final Completion is accomplished unless an extension in the Contract Time is granted by the Owner.

3.05 APPLICATIONS FOR FINAL PAYMENTS

A. Applications for the final payments shall be accompanied by the following documents. Failure to submit these Documents with the request for final payment shall cause the final payment to be delayed until such time as the documents are delivered.
   1. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims": This form must be signed by the local surety agent who executed the bond for the Contract or by the home office of the Surety Company.
   2. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
   3. AIA Document G707, "Consent of Surety to Final Payment."
   4. Updated final statement, accounting for final changes to the Contract Sum.
   5. Final liquidated damages settlement statement.
B. Further, the final payment shall not be made until provisions of the project close-out have been completed. This completion shall be evidenced by execution by the Contractor of a Certificate of Final Completion and delivered to the Architect for his acceptance and execution. Upon receipt of these documents and acceptance of the Certificate of Final Completion, the Owner shall then authorize the issuance of the final payment.

3.06 FINAL PAYMENT

A. Final Payment to the Contractor will be made within thirty (30) days of issuance of the Certificate of Final Completion and Consent of Surety Company.

END OF SECTION

AFFIDAVIT AND INTERIM WAIVER OF LIEN

Project: _____

The undersigned being duly sworn deposes and says that all known charges for labor, material, and services included in all previous payment requests have been fully paid and indebtedness discharged. All monies received from this Request No. _____, in the amount of _____ will be used for payment of labor, materials, and services covered by this request.

Furthermore, in consideration of the payments shown hereon, the undersigned does hereby waive, release and relinquish all claims or right of lien which the undersigned may now have upon the premises above described for labor, material, general supervision of construction, and services performed to date.

This affidavit is given to induce payment of Request No. _____ in the amount of _____. The below signed certifies receipt of payment in the amount of _____, through previous requests.

Contractor:

By:

Sworn and subscribed before me this ____ day of _____, 20__.

Notary Public: _____ Seal:
My Commission Expires:

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SECTION 01 3113
PROJECT COORDINATION

PART 1 GENERAL

1.01 SUMMARY

A. This section shall generally cover Project Coordination and Subcontractor Coordination as it may apply to the project.

1.02 SUBMITTALS

A. Subcontract List: Prepare a summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information:
   1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
   2. Number and title of related Specification Section(s) covered by subcontract.

B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project. Post copies of list in temporary field office and in prominent location in facility. Keep list current.

PART 2 PROJECT COORDINATION

2.01 GENERAL COORDINATION

A. 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 to ensure maximum performance and accessibility for required maintenance, service, and repair.
   3. Make adequate provisions to accommodate items scheduled for later installation.

B. The Contractor shall afford Subcontractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall see that all work is properly connected and coordinated.

C. The Contractor shall cooperate with the representative and employees of the Architect, with subcontractors and with any other contractors on the premises who may be employed by the Owner to expedite the construction of the entire facility.

D. If any part of the work depends, for its proper execution or completion, upon the work of others, the Contractor shall report promptly in writing to the Architect and Owner any defects in the work of others or other causes that interfere with the proper execution or completion of the work. Failure to do so would constitute a waiver of claim against the Owner except for latent defects not reasonably noticeable at the time the Contractor commenced that part of the work.

E. Whenever work being done by the Owner's forces, or by other contractors, is contiguous to work covered by this contract, the various rights of the various interests involved shall be established by the Architect.

PART 3 MAJOR SUBCONTRACTORS' COOPERATION

3.01 It shall be the responsibility of the General Contractor to coordinate the project as a whole, but it will also be the subcontractor's responsibility to closely coordinate their work with each other so that when material is delivered to the site, it may be installed without delay.

3.02 If any subcontractor should fail to introduce his portion of the work according to the schedules, and this failure would interfere with the proper execution or completion of the work, he should report such deficiencies to the General Contractor, in writing, and he in turn shall be guided by the directions as stated in Paragraph 2.03 herein.

END OF SECTION

SECTION 01 3119
PROJECT MEETINGS

PART 1 GENERAL

1.01 DESCRIPTION

A. To enable orderly review during progress of the work, and to provide for systematic discussion of problems, the Architect will conduct project meetings throughout the construction period.
B. The Contractor's relations with his Subcontractors and materials suppliers and discussions relative thereto, are the Contractor's responsibility and are not part of project meetings content.

1.02 QUALITY ASSURANCE

A. Persons designated by the Contractor to attend and participate in the project meetings shall have all required authority to commit the Contractor to solutions agreed upon in the project meetings.

1.03 SUBMITTALS

A. Agenda Items: To the maximum extent practical, the Architect shall advise the Contractor at least three (3) days in advance of a meeting and the Contractor shall advise the Architect at least 24 hours in advance of project meetings regarding all items to be added to the agenda.
B. Minutes: The Architect will compile minutes of each project meeting and will furnish electronic meeting minutes in PDF format via Newforma platform to the Contractor. The Contractor may make and distribute such other copies as he wishes.

PART 2 PRODUCTS

2.01 No Products are required in this Section.

PART 3 EXECUTION

3.01 MEETING SCHEDULE

A. Except as noted below for Preconstruction Meeting, project meetings probably will occur not less frequently than on a monthly basis or more frequently than a bi-monthly basis. Coordinate as necessary to establish mutually acceptable schedule for meetings.
B. Meeting Location: To the maximum extent practical, meetings will be held at the job site.

3.02 PRECONSTRUCTION MEETING

A. Preconstruction Meetings will be scheduled within ten (10) days by the Owner at the time when the Owner issues Notice to Proceed. Provide attendance by authorized representatives of the Contractor and all major subcontractors. The Architect will advise other interested parties and request their attendance.
    1. Minimum Agenda: "Forsyth County Pre-Construction Project Kick-Off Meeting Agenda".
        a) This Agenda shall from the basis of the Pre-Construction Meeting, and is attached to the end of this Section.

3.03 PROJECT MEETINGS

A. OAC Meetings
    1. Contractor shall run OAC (Owner, Architect & Contractor) meetings as required to the satisfaction of the Architect and Owner, record all meeting minutes, and submit all meeting minutes within 48 hours following each meeting. Contractor's Project Manager and Superintendent are required to attend all OAC meetings.
    2. Owner, Architect and Contractor (OAC) meetings should be scheduled at a regular meeting time and day of every other week, as mutually agreed.
        a) Preferred day / time.
        b) If mutually agreed by the project team, all RFIs are closed, all submittals approved and open cost issues are resolved, a meeting may be cancelled.

3. Attendance: To the maximum extent practical, assign the same person or persons to represent the Contractor at project meetings throughout progress of the work. Subcontractors, materials suppliers, and others may be invited to attend those project meetings in which their aspects of the work are involved.
4. Minimum Agenda: "Forsyth County OAC Project Meeting Agenda".
   a) This Agenda shall form the basis of the OAC meetings, and is attached to the end of this Section.
   b) Contractor to furnish an updated schedule and updated logs of all submittals, requests for information, and change orders schedule at each OAC meeting.
   c) All OAC Meeting minutes shall be closed with the following questions:
      1) Is there anything and/or anyone delaying you on the project at this time?
      2) Are there any other impending cost impacts that have not been discussed?

END OF SECTION

Forsyth County Department of Public Facilities

Capital Projects

PRE-CONSTRUCTION PROJECT KICK-OFF MEETING AGENDA

PROJECT:
DATE:
TIME:
LOCATION:

1.) **Attendees and Introductions:**

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

2.) **Primary Points of Contact:**

Architect –
Name: David Brown
Phone: (470) 529-1041
E-mail: dbrown@jericho-design.com

GC Project Manager – TBD
Name:
Phone:
E-mail:

GC Superintendent – TBD
Name:
Phone:
E-mail:

Capital Projects Manager –
Name: James Weldon
Phone: (404) 276-3622
E-mail: JMWeldon@forsythco.com

Director of Procurement –
Name: Donna Kukarola
Phone: (770) 888-8872
E-mail: DHKukarola@forsythco.com

3.) **Contract Status** -

- Performance & Payment Bonds status:
- Insurance certificate status:
- E-verify status: *(Completed for all employees of contractor and subcontractors?)*
- Notice to Proceed:
- Executed Contract:
- Contract completion calendar days/date: _____ *(days)*, _____ *(date)*
- Land Disturbance Permit status: AHJ review concluded and approved. General Contactor to pull permit.
- NOI status:
- Building Permit status: AHJ review concluded and approved. General Contactor to pull permit.

4.) **Correspondence** -

- All e-mail subjects will be prefixed with "***JJC – (subject matter)***" for this project.
- Architect utilized NewForma for storage and distribution project documents among the project team *(contract, addenda, project meeting minutes, submittals, RFIs, COR's, CO's, Closeout documents, etc…).*
- Copy the Capital Projects Manager on all correspondence.

5.) **Application for Payment Procedures** -

- Contractor shall submit the following schedules prior to its first pay application the:
  - a Project Construction Schedule
  - a Schedule of Values
  - a Project Cashflow Projection
  - a Submittal Schedule
  - a Closeout Procedure Schedule
- Contractor to submit a pencil draft on or before the 1st of each month.
  - e-mail subject suffix, *"DRAFT Pay Application (insert month)"*
- Architect to approve and submit the approved pay application to Donna Kukarola, Director of Procurement by the 10th of each month.
  - e-mail subject suffix, *"APPROVED Pay Application (insert month)"*
- Payment issued by the 25th.
- Contractor to furnish, an Executive summary for the project with each pay application. The project Summary will provide and update on budget, schedule, % complete, major miles stones and a site photo *(county boiler plate available upon request)*.

6.) **Safety** -

- Site Logistics Plan
- Utility Locate
- Safety Plan and Procedures
- The Contractor shall maintain a hard copy of its OSHA compliant safety program at the site.
- The Contractor is responsible to ensure that all persons on the project site; obey all OSHA regulations; always wear the appropriate PPE; and enforce their safety program.

7.) **Schedule –**

- Review Contractor Schedule
- Contractor to provide 3-week-look-ahead schedule at OAC meetings.
- Provide a project schedule update monthly (prior to the first project meeting of the month)
- Normal Workdays:
- Normal Work Hours:
- Special inspections and other owner provided services, items, reports, etc… *(Contractor must provide adequate lead time)*

8.) Testing and Inspection –

Testing and inspection services are conducted to meet requirement of all codes, laws, and regulations. Applicable testing/inspections conducted by the Owner for this project include the following:

- Special material inspections (concrete, steel, masonry)
- Geotechnical inspections
- Pavement inspection
- Fire sprinkler system
- Radon
- Code inspections
- Mechanical/plumbing commissioning
- Envelope inspections (roofing, windows, glazing)
- Commissioning

- Update RFP schedule
- > FC standards and Special Conditions
- > Testing/Reports
- > Geotechnical
- > Survey
- > Environmental
- > Haz. Mat ACM/LBP

9.) Submittal & RFI Procedures -

- Transmit all Submittals & RFIs to the Architect.
- The Contractor will log and the track status of Submittals and RFIs.
- Submittals are to be referenced with the appropriate specification division number.
- RFIs are to be referenced with the corresponding drawing number and specification section number.

10.) Change Order Procedures -

- Call James Weldon (Capital Projects Manager) immediately to provide notification that a cost issues or potential cost issue has arisen.
- The contractor will immediately follow-up with formal notification to the architect.
- All change requests will be reviewed at one OAC meeting minimum prior to approval. *(All Back-up must be included in accordance with the special conditions.)*
- Adjustment of the contract price for extra work shall not exceed fifteen percent (15%) mark-up. Contractor's change order request format shall adequately provide all the following information:
  a. A narrative of the circumstances surrounding the cost issue.
  b. The date, time and location the cost issue was discovered.
  c. The date, time that the issue was first reported to the owner's representative, in writing.
  d. All COR detail shall be provided on a material, labor and equipment basis and separated per logical sequence of the work for each issue with quote back-up for material costs.
  e. A detailed breakdown of quantities.
  f. Attachments with mark-ups of plans and details to clarify the COR scope of work.
  g. Assumptions of production shall be justified in accordance with performance of actual work that was completed on the same project, that the contractor has self-performed, under similar conditions.
- Owner and architect reviews.
- Architect issues notification of rejection or acceptance.
- Submit formal change order requests to Architect.

- Architect submits approved change Order request to Donna Kukarola, Director of Procurement for adjustment of the contract.
- The Contractor will log and the track the status of cost and schedule change issues.

Project OAC and AC Meetings -

- The Contractor will host each OAC meeting, record all meeting minutes.
- Owner, Architect and Contractor (OAC) meetings should be scheduled at a regular meeting time and day of every other week, as mutually agreed.
  - Preferred day / time
  - If mutually agreed by the project team, all RFIs are closed, all submittals approved and open cost issues are resolved, a meeting may be cancelled.
- Contractor to furnish, an updated schedule and updated logs of all submittals, requests for information, and change orders schedule at each OAC meeting.
- All OAC Meeting minutes shall be closed with the following questions:
  - Is there anything and/or anyone delaying you on this project at this time?
  - Are there any other impending cost impacts that have not been discussed?
- Meeting minutes provided by contractor within 48 hours of each OAC.

11.) Substantial/final Completion and Closeout Procedures –

- **Substantial Completion:** A stage in the progress of work when all of the requirements of the contract are substantially performed and complete so owner can have beneficial use and occupancy of the project site as intended under the contract, subject only to remaining minor and trivial defective work, if any.
- **Final Completion**: A stage in the progress of work when all of the requirements of the contract have been completed and absolutely no outstanding work or repairs remain to be completed, regardless of how small or trivial.
- Upon substantial/final completion of the project provide the Certificate of Occupancy, Consent of Surety, Operation and Maintenance manuals, Commissioning Certifications, training, NPDES water sampling data, all inspection records and all other closeout documents required by the project documents shall be submitted to the Architect and verified for completeness prior to approval of the Contractor's final pay application request for retention.
- The Architect will provide one hard copy set of plans incorporating all the plan change revisions and details generated during construction that may have been distributed through RFIs and exhibits. Including one full scale hard copy, one PDF copy and one DWG copies of the project plans containing all the plan change revisions and details generated by the Architect during construction. DWG files should be provide such that each sheet is separate and have the plans and details "bonded" to the sheet in model space

12.) Additional Discussions/Issues –

- Forsyth County:
- Design Professional:
- Contractor:
- Other:

13.) <u>Final Statement to Contractor</u> –

- Is there anything and/or anyone delaying you on this project at this time?
    - Response from Contractor:
- Are there any other impending cost impacts that have not been discussed?
    - Response from Contractor:

14.) Next meeting: _____ (date), _____ (time)

Forsyth County Department of Public Facilities

Capital Projects

OAC PROJECT MEETING AGENDA

PROJECT:
DATE:
TIME:
LOCATION:

1.) **ATTENDEES:**

2.) **USER GROUP–**
- Questions & comments:

3.) **CONTRACTOR–**
- Hand out 3-Week Look-Ahead schedule update, Submittal log, RFI log, & Change Order logs:
    - Lookahead should be presented in a Gant style bar chart with week of date and duration
- General project status update:
- Review open submittals:
- Review open RFI's:
- Review Change Order Log and open cost issues:
- Current/future issues:
- Upcoming inspections:
- Request for any owner provided service/items: ***(adequate lead-time must be provided)***
- Other questions & comments:

4.) **ARCHITECT–**
- Site observations/issues: Erosion Control BMP's, workmanship
- Review delinquent Submittals/RFIs:
- Other questions & comments:

5.) **OWNER–**
- Other questions & comments:

6.) **CLOSING QUESTIONS –**
- Is there anything and/or anyone currently delaying you the Contractor on this project?
    - Response from Contractor:
- Are there any other impending cost impacts that have not been discussed at this time?
    - Response from Contractor:

7.) **NEXT MEETING TIME –**

SECTION 01 3216
NETWORK ANALYSIS SCHEDULES

PART 1 GENERAL

1.01 DESCRIPTION

A. The work specified in this Section consists of preparing and submitting a preliminary network analysis progress schedule; preparing, submitting, and updating a permanent network analysis progress schedule; and participating in a review and evaluation conference of the proposed network diagrams and analysis with the Owner. Upon approval by the Owner, schedule shall be used as a basis for planning, organizing, and directing the work and reporting progress.

1.02 QUALITY ASSURANCE

A. Progress schedules shall be prepared either by the Contractor's own staff assigned to the Project or by outside qualified consultant, all of which shall have been trained and experienced in preparing and analyzing schedules described in this section.

1.03 PRELIMINARY SCHEDULE

A. Preliminary Schedule shall show Contractor's planned operations during the first 60 calendar days after receipt of the Notice to Proceed and his general approach to the remainder of the work.

1.04 PERMANENT SCHEDULE

A. Schedule shall consist of time-scaled arrow diagrams and accompanying analysis; prepare on a multi-level basis to provide Owner with a summary network comprised of major milestones and a series of subnets delineating details required to achieve each major milestone.
   1. Show the order and interdependence of activities and the sequence in which the work is to be accomplished. Follow the basic concept of a network analysis diagram; show how the start of a given activity depends on the completion of preceding activities, and how its completion restrains the start of following activities.
   2. Detailed network activities shall include construction activities; submittal and approval of samples of major materials and of shop drawings; date on which reviewed submittals will be required; submittal of warranties and bonds; procurement of critical major materials and equipment; and fabrication, installation, and testing of special material and equipment; and, if the Contractor elects to prepare and submit shop drawings, product data, samples, and proof of firm orders and contracts within 180 days after the effective date of the Notice to Proceed, the early submittal and approval dates of those documents. Show Owner's activities which affect progress, and Contract required dates for completion of all or parts of the work.
   3. Include significant milestone events and activities impacting the Owner's relationship with local agencies, utilities, other contractors, owners and tenants of adjacent property, and the general public and include:
      a) Temporary closing of streets.
      b) Re-opening of streets.
      c) Commencement of work, in areas that entail notice to the public and to owners and tenants of adjacent property, of traffic detours or other interference.
      d) Permanent closing of streets.
      e) Commencement of, or completion of, work which will have an effect on other contractors working on or adjacent to the work site.
      f) Temporary construction easement and other real estate constraints.

B. Detailed networks shall show a continuous flow of activities from left to right. Show responsibility, activity node numbers, activity description, and activity duration in working days for each activity. Network shall be sufficiently detailed to accurately depict the work. Activity durations shall be neither more than 10 percent of the total duration of the Contract nor less than one day, unless approved by the Owner. Analysis of network diagram shall include a tabulation of each activity. As a minimum, furnish the following for each activity:

1. Preceding and following node numbers.
2. Activity description.
3. Estimated duration of activity, in working days.
4. Earliest start date, by calendar date.
5. Earliest finish date, by calendar date.
6. Actual start date, by calendar date.
7. Actual finish date, by calendar date.
8. Latest start date, by calendar date.
9. Latest finish date, by calendar date.
10. Float.
11. Monetary value of activity.
12. Responsibility.

C. Analysis program shall be capable of compiling approximate monetary value of completed and partially completed activities, of accepting revised completion dates, and of recomputing all dates and float accordingly.
D. Analysis shall list activities in either sorts or groups as follows:
   1. By the activity node numbers from lowest to highest.
   2. By the amount of float, then in order of early start.
   3. By responsibility in order of earliest possible start dates.
   4. In order of latest allowable start dates.
   5. In order of latest allowable finish dates.
   6. Detail and summary bar charts sorted as in Articles 1.04 D., 1 through 5.
   7. Preceding and succeeding activities relationship; and
   8. Cash flow.
      a) By early finish.
      b) By late finish.
E. Float is amount of time between early start date and late start date, or early finish date and late finish date of activities.

1.05 PERIODIC REPORTS

A. Monthly update reports shall include a narrative report of actual construction progress based on updated analysis, and all reports specified in Article 1.04D of this section.
B. Annotate updating on diagrams in a manner which will graphically depict current status of work.
C. Updating information entered into the analysis shall be subject to approval by the Owner.
D. Reports shall show the activities, and portions of activities, completed during the reporting period, the actual duration of each, and the monetary value of those activities. Reports shall state percentage of project completed as of the report date, and progress along critical path in terms of days ahead or behind latest allowable dates. If project is behind schedule, report progress along paths having negative float. Report shall include, but shall not be limited to, a list of all activities which are scheduled to be started within the next reporting period and their scheduled and intended starting dates and duration, a description of current and anticipated problems and delaying factors and their impact, and a description of corrective actions taken or proposed.

1.06 CHANGES TO CONTRACT

A. For changes to the Contract which could influence the order of work, restraints between various activities, or duration of time estimate for activities on the diagram, determination of the impact of such changes on the required Contract date or dates shall be made by network analysis method.
B. If a change order is issued, change network diagram and analysis to reflect requirements of change order; make changes no later than next updating after change order.
C. When changes in the work are made before settlement of price or time, or both, to avoid delay and additional expense, revise network logic or duration time estimates of all activities affected by change on next succeeding updating report after the date of change. Submit revisions for approval before including changes in network.
D. If the Contractor fails, or refuses to submit or include the foregoing revisions within thirty days after the date of change, the Owner may furnish to the Contractor the logic

duration time changes, or both, to be entered into the network and used in a subsequent updating of reports until such time that the change has been settled or until actual dates supersede the estimated date. Inclusion in the network and use of revised logic or duration time, or both, estimates for updating, whether furnished by the Contractor or by the Owner, will not be construed as extensions of time to the dates required in the Contract.

1.07 SUBMITTALS

A. Submit electronic report in PDF format via Newforma platform of each analysis and report as follows:
   1. Submit preliminary schedule within ten (10) days after execution of Contract.
   2. Submit draft of initial permanent network flow diagram within thirty (30) days after execution of Contract and before submitting initial permanent network analysis. Review draft with Owner.
   3. Submit initial permanent network analysis within forty-five (45) days after execution of Contract. Include all reports specified in Article 1.04D of this section, and include a written narrative describing equipment, crewing, shifts, and material deliveries, all as required to achieve scheduled performance.
   4. Submit revised network analysis, into which Owner's comments have been incorporated, within ten (10) days after receipt of Owner's review comments.
   5. Submit updated periodic reports on first working day of each month following submittal of the above revised analysis. Each updated copy shall show the date of the latest revision.

1.08 MEASUREMENT

A. The work of this section will not be measured for payment.

1.09 PAYMENT

A. The work of this section will be paid for as part of the Contract lump sum for GENERAL REQUIREMENTS.

PART 2 PRODUCTS

2.01 NETWORK SHEETS

A. Network sheets shall be 22 inches wide and not longer than 34 inches.

2.02 NARRATIVE REPORT SHEETS

A. Narrative report sheets shall be 8-1/2" x 11" white bond.

PART 3 EXECUTION

3.01 PREPARATION

A. Thoroughly study sequence-of-work, work to be performed by others and work of adjoining Owner projects which interface with this project before starting work of this section.

3.02 REVISIONS TO APPROVED SCHEDULE

A. If Contractor desires to change approved schedule, notify Owner in writing stating reasons for change. If Owner considers change to be of a major nature, Owner may require Contractor to revise and submit for approval, at no additional expense to Owner, all of the affected portion of the detailed diagrams and analysis to show the effect on entire project. A change may be considered to be of a major nature if either the time estimated to be required for an activity or the sequence of activities is varied to a degree that there is reasonable doubt that the Contract completion date or dates will be met. Changes to activities having adequate float shall be considered to be minor changes, except that an accumulation of minor changes may be considered to be a major change if such changes affect the Contract completion date.
B. If it becomes necessary for the Owner to either furnish suggested logic or revise duration time, or both, because of Contractor's failure to timely furnish acceptable data, and if Contractor has any objections to data furnished by the Owner, promptly advise the Owner in writing of such objections and fully support objections with a counterplan.

Continue to use revisions suggested by the Owner for all updating reports until Owner may approve alternate data. If Contractor fails to submit, in writing, his objections and data supportive thereof, Contractor will be deemed to have concurred in Owner's suggested logic and revised duration time, which logic and changes will then be the basis for equitable adjustment of the time for performing the work.

C. Failure of Contractor to submit and obtain approval of initial network analysis system, including any required revisions thereto, or any other required schedule submittals within time limits stated, shall be sufficient cause for certification that rate of progress is not satisfactory, or that Contractor's personnel directly responsible for planning, scheduling, and maintaining progress of the work are not performing their work in a proper and skillful manner, or both. The Owner will withhold approval of Contractor's invoices for progress payment until such submittal is made and approved.

END OF SECTION

SECTION 01 3233
PHOTOGRAPHIC DOCUMENTATION

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for the following:
   1. Preconstruction photographs.
   2. Periodic construction photographs.
   3. Final Completion construction photographs.
   4. Time-lapse sequence construction video recordings.

1.02 SUBMITTALS

A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph or videotape. Indicate elevation or story of construction. Include same label information as corresponding set of photographs or videotapes.

B. Construction Photographs: Submit photographs of each ground and aerial photographic view within seven days of taking photographs.
   1. Digital Format: JPEG or TIFF, 300 dpi minimum resolution.
   2. Identification: On each electronic file, provide the following information as part of the medatag:
      a) Name of Project.
      b) Name and address of Professional photographer.
      c) Name of Architect
      d) Name of Contractor.
      e) Date photograph was taken if not date stamped by camera.
      f) Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
      g) Unique sequential identifier.
   3. Digital Images: Submit a complete set of digital image electronic files as a Project Record Document on CD-ROM. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as the sensor, uncropped.

C. Video Recordings: Submit one copies of each ground and aerial video recording in digital video disc (DVD) format, within seven days of recording.
   1. Identification: On each copy, provide an applied label with the following information:
      a) Name of Project.
      b) Name and address of Professional photographer.
      c) Name of Architect
      d) Name of Contractor
      e) Date video was recorded.
      f) Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
      g) Unique sequential identifier.

1.03 QUALITY ASSURANCE

A. Aerial Photographer Qualifications: An individual who has been regularly engaged as a professional aerial photographer of construction projects for not less than three years.

1.04 COORDINATION

A. Auxiliary Services: Cooperate with photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities, including temporary lighting required to produce clear, well-lit photographs without obscuring shadows.

1.05 USAGE RIGHTS

A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

PART 2 PRODUCTS

2.01 PHOTOGRAPHIC MEDIA

A. Digital Images: Provide images in JPEG or TIFF format, produced by a digital camera with minimum sensor size of 24 megapixels, and at an image resolution of not less than 300 dpi.

B. Video Recordings: Provide high-resolution, digital video disc in format acceptable to Architect.

PART 3 EXECUTION

3.01 CONSTRUCTION PHOTOGRAPHS

A. Photographer:
   1. Engage a qualified Professional commercial photographer to take construction photographs.
   2. Engage an employee of the General Contractor in an employment position of Project Manager or higher supervisory position to take construction photographs.

B. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
   1. Maintain key plan with each set of construction photographs that identifies each photographic location.

C. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
   1. Date and Time: Include date and time in filename for each image.
   2. Field Office Images: Maintain one set of images in electronic format in the field office at Project site, available at all times for reference. Identify images same as for those submitted to Architect.

D. Preconstruction Photographs: Before starting construction, take color photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect.
   1. Flag construction limits before taking construction photographs.
   2. Document existing campus with photos showing conditions adjacent to property before starting the Work.
   3. Take at least four photographs of each existing building either on or adjoining property to accurately record physical conditions at start of construction.

E. Periodic Construction Photographs: Document construction activity with photos on a weekly basis, with timing each month adjusted to coincide with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

F. Final Completion Construction Photographs: Document project after date of Substantial Completion for submission as Project Record Documents. Architect will direct photographer for desired vantage points.

END OF SECTION

SECTION 01 3300
SUBMITTALS

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous work-related submittals. Additional submittal requirements are stipulated in the individual Sections for each unit of Work. Refer to Division 01 Sections and other Contract Documents for the requirements of administrative submittals.

B. Related Sections include, but may not be limited to, the following:
   1. Division 01 Section "Application For Payment" for submitting Applications for Payment.
   2. Division 01 Section "Project Coordination" for scheduling the Work and submitting Coordination Drawings.
   3. Division 01 Section "Contract Close-Out" for submitting warranties, project record documents and operation and maintenance manuals.
   4. Division 01 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.02 DEFINITIONS

A. The Work-related submittals of this Section, in addition to the definitions in the General Conditions and elsewhere in the Contract Documents, are defined as follows:
   1. Shop drawings include custom-prepared data of all forms including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form applicable to other projects.
   2. Product data include standard printed information on materials, products and systems, not custom-prepared for this project, other than the designation of selections from available choices.
   3. Samples include both fabricated and unfabricated physical examples of materials, products and work; both as complete units and as smaller portions of units or work; either for limited visual inspection or (where indicated) for more detailed testing and analysis.
   4. Mock-ups are a special form of samples, which are too large to be handled in the specified manner for transmittal of sample submittals.
   5. Informational Submittals: Miscellaneous submittals related directly to the work (non-administrative) including warranties, guarantees, maintenance agreements, workmanship, bonds, survey data and reports, physical work records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, as-built data, operating and maintenance materials and similar information, devices and materials applicable to the work and not defined as shop drawings, product data or samples.
   6. File Transfer: Architect utilizes Newforma for all CA activities. It is the sole responsibility of the General Contractor to facilitate integration of GC's project management software to interface with Architect's Platform.
   7. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.03 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings can be provided by Architect for Contractor's use in preparing submittals.
   1. If requested by the General Contractor, the Architect will provide only to the General Contractor digital data files for use in the preparation of Shop Drawings. The request shall be made by the General Contractor by signing and returning the Architect's "Digital Data Licensing Agreement".

2. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
3. Digital Drawing Formats: The Contract Drawings are available in .dwg format.
4. The following digital data files can be furnished for each appropriate discipline:
   a) Floor plans.
   b) Reflected ceiling plans.

B. Submittal Schedule: Provide a separate schedule that is linked to the prime construction schedule, organized by related specifications reference number sequencing, showing the principal work-related submittals and their individual tasks and related dates. This schedule must be submitted, reviewed, and agreed to by both Architect and General Contractor prior to first submittal review by Architect.
   1. Each scheduled submittal shall have at a minimum the following associated tasks:
      a) Initial Sub-contract/PO date set as a milestone.
      b) Preparation of submittals by Sub-contractor or Vendor.
      c) Review of submittal by General Contractor.
      d) Review of submittal by Architect/Engineer/Owner.
      e) Fabrication and Delivery of product.
   2. Each task shall indicate the following information: Duration; Early/Late Starts; Early/Late Finish; Total Float.
   3. Submit schedule to Architect for review and comment at least 21 days prior to first submittal "Late Start" date assigned to task item "d" above as required for the entire project to meet General Contractor's original baseline/target schedule. Failure to submit the schedule as required by this Section may delay initial reviews by Architect and will not be cause for any delay claim by General Contractor.
   4. Provide submittals in the order and on dates indicated in the Submittal Schedule. The Architect reserves the option of returning, holding without action, or delaying action on submittals which are not submitted in strict accordance with the Submittal Schedule.

C. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
   1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
   2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
      a) Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
   3. No extension of time will be allowed because of failure to properly coordinate and sequence submittals. Do not proceed with purchasing, fabrication and delivery of work related to a submittal until submittal procedure has been successfully completed.
   4. It shall be the General Contractor's responsibility to verify that applicable subcontractors obtain shop drawings created by adjacent trades, picture them as true adjacent conditions, and coordinate with them.

D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal.
   1. Initial Review: Allow fourteen (14) days for initial review of each submittal. Allow twenty one (21) days for initial review of structural steel submittals. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
   2. Concurrent Review: Where concurrent review of submittals by Architect's consultants, Owner, or other parties is required, allow twenty one (21) days for initial review of each submittal.
   3. Color Selections: Shop drawings relating to color selections will be held until all materials requiring color choices are submitted, in order to allow a unified color selection process. Allow five weeks (35 days) from receipt by Architect of last color submittal to return to Contractor of color choices.

4. If intermediate submittal is necessary, process it in same manner as initial submittal.
5. Allow fourteen (14) days for processing each resubmittal.

E. Paper Submittals: It is the responsibility of the General Contractor to migrate all paper submittals to electronic format (PDF). If paper submittals are provided by the General Contractor, cost for Architect to scan drawings shall be directly expensed to the General Contractor. Each paper submittal shall comply with the following criteria or they will be rejected and returned back to the General Contractor. Review time shall be reset once shop drawings have been submitted with following information. Place a permanent label or title block on each submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information for processing and recording action taken:
   a) Project name.
   b) Date.
   c) Name of Architect.
   d) Name of Contractor.
   e) Name of subcontractor.
   f) Name of supplier.
   g) Name of manufacturer.
   h) Specification Section number and title.
   i) Submittal number or other unique identifier, including revision identifier.
      (1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
   j) Other necessary identification.

F. Electronic Submittals: Architect utilizes Newforma for all CA activities. It is the sole responsibility of the General Contractor to facilitate integration of GC's project management software to interface with Architect's Platform. Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
   a) File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-06 1000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-06 1000.01.A).
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Architect and/or Owner, containing the following information:
   a) Project name.
   b) Date.
   c) Name of Architect.
   d) Name of Contractor.
   e) Name of subcontractor.
   f) Name of supplier.
   g) Name of manufacturer.
   h) Specification Section number and title.
   i) Submittal number or other unique identifier, including revision identifier.
      (1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 06 1000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 06 1000.01.A).
   j) Other necessary identification.

5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
   a) Project name.
   b) Number and title of appropriate Specification Section.
   c) Manufacturer name.
   d) Product name.

G. Identification: Provide permanent marking on each submittal to identify it by project, date, General Contractor, subcontractor, supplier, submittal name and similar information to distinguish it from other submittals. Show General Contractor's approval marking and provide space for Architect's "Action" marking. Package each submittal appropriately for transmittal and handling.
   1. Submittals which are received directly from sources other than through the General Contractor's office will be returned "without action".

H. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
   4. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
   5. Use for Construction: Retain complete copies of submittals on Project site. Use only final submittals with mark indicating action taken by Architect in connection with construction.

PART 2 PRODUCTS

2.01 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

B. Number of Copies:
   1. Electronic Submittals: Architect utilizes Newforma for all CA activities. It is the sole responsibility of the General Contractor to facilitate integration of GC's project management software to interface with Architect's Platform. Post electronic submittals as PDF electronic files via email or directly to Project Web site specifically established for Project, as established by Architect prior to first submittal. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

C. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
   1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
   2. Mark each copy of each submittal to show which products and options are applicable.
   3. Include the following information, as applicable:
      a) Manufacturer's written recommendations.
      b) Manufacturer's product specifications.
      c) Manufacturer's installation instructions.
      d) Color charts (black and white photo copies not acceptable).
      e) Manufacturer's catalog cuts.
      f) Wiring diagrams showing factory-installed wiring.

g) Printed performance curves.
h) Operational range diagrams.
i) Mill reports.
j) Standard product operating and maintenance manuals.
k) Compliance with recognized trade association standards.
l) Compliance with recognized testing agency standards.
m) Application of testing agency labels and seals.
n) Notation of coordination requirements.

D. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents, or standard printed data, unless specifically authorized by Architect.
1. Preparation: Include the following information, as applicable:
a) Dimensions.
b) Identification of products.
c) Fabrication and installation drawings.
d) Roughing-in and setting diagrams.
e) Wiring diagrams, as required by Specifications, showing field-installed wiring, including power, signal, and control wiring.
f) Templates and patterns.
g) Schedules.
h) Design calculations.
i) Notation of coordination requirements.
j) Notation of dimensions established by field measurement.
2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
3. BIM File Incorporation: Develop and incorporate Shop Drawing files into Building Information Model established for Project. Prepare Shop Drawings in the same digital data software program, version, and operating system as the original Drawings.

E. Samples: Provide units identical with the final conditions of the proposed materials or products for the work. Include "range" samples (not less than 3 units) where variations occur, and identify each unit of each set. Provide full set of optional samples where Architects selection is required. Prepare samples to match the Architect's sample where so indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliances with standards. Samples are submitted for review and confirmation of color, pattern, texture and "kind" by the Architect or Engineer, who will not "test" them (except as otherwise indicated) for other requirements, which are therefore the exclusive responsibility of the General Contractor.
1. Submit two (2) sets of samples in the final submittal; one set will be returned.
2. At his option, the General Contractor may provide a preliminary submittal of a single set of samples for the Architect's review and "Action" contingent upon later submittal of the above required two sets.
3. Quality Control Set: Maintain the returned final set of samples at the project site, in suitable condition and available for quality control comparisons by the Architect, Engineer or Owner.

F. Informational Submittals: Prepare and submit Informational Submittals required by other Specification Sections. Informational submittals include, but are not limited by, the following:
1. Contractor's Construction Schedule: Comply with requirements in Division 1.
2. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
3. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.

4. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
5. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
6. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
7. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements.
8. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
9. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.
10. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
11. Standards: Except where specified as a portion of the "Product Data" submittal, submit a single copy for the Architect's or Engineer's use. Where workmanship at the project site and elsewhere where the work in progress is governed by the standard, furnish additional copies to fabricators, installers and others involved in the performance of the work.
12. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.02 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
   1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and two paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
   1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.
C. BIM File Incorporation: Incorporate delegated-design drawing and data files into Building Information Model established for Project. Prepare delegated-design drawings in the same digital data software program, version, and operating system as the original Drawings.

2.03 SUBMITTALS REQUIRED

A. The following is a list of submittals that need to be included in General Contractors Shop Drawing Log:

Erosion Control
Concrete
Asphalt
Storm
Sanitary
Pavement Marking
Signs
Grassing
Water

PART 3 EXECUTION

3.01 CONTRACTOR'S REVIEW

A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect. Submittals that are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor will be returned "without action".
B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.02 ARCHITECT'S ACTION

A. Architect or Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
B. Where action and return is required or requested, the Architect or Engineer will review each submittal, mark it with his "Action" and return it, except where it must be held for coordination, and the Contractor is so advised. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
   1. No Exceptions Taken: Final Unrestricted Release. Work may proceed, provided it complies with the Contract Documents.
   2. Exceptions Noted: Final-But-Restricted Release. Work may proceed, provided it complies with the notations and corrections on the submittal and with the Contract Documents.
   3. Resubmit: Not released – comply with comments. Do not proceed with the subject work. Revise the submittal in accordance with the notations thereon, and resubmit without delay to obtain a different marking. Do not allow submittals to be used in connection with performance of the Work.
   4. Reject: Not released – comply with Contract Documents. Do not proceed with the subject work. Provide submittal for products or processes in accordance with the Contract Documents.
C. The Architect or Engineer will review the Submittals only for conformation with the design concept of the Project and with the information given in the Contract Documents. The review does not extend to submittal information related to shop fabrication processes, field construction techniques, or coordination of trades and their work.
D. Shop drawings relating to color selections will be held until all materials requiring color choices are submitted, in order to allow a unified color selection process. Allow six weeks from receipt by Architect of last color submittal to return to Contractor of color choices.

END OF SECTION

SECTION 01 4000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
   1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
   2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
   3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, Construction Manager, or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections include, but may not be limited to, the following:
   1. Division 01 Section "Project Coordination" for Contractor/Subcontractor coordination and concrete slab moisture vapor transmission.
   2. Division 01 Section "Allowances" for testing and inspecting allowances.
   3. Divisions 02 through 33 Sections for specific test and inspection requirements.

1.02 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect or Construction Manager.

C. Mockups: Full size physical assemblies that are constructed on-site or off-site, as indicated. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
   1. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on the project site, consisting of multiple products, assemblies and subassemblies.
   2. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes, doors, windows, millwork, casework, specialties, furnishings and equipment, and lighting.
   3. Laboratory Mockups: Full-size, physical assemblies constructed at testing facility to verify performance characteristics.

D. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.

G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
   1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.

1.03 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.04 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
   1. Contractor's Quality-Control Manager Qualifications: For supervisory personnel.
B. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems.
   1. Seismic-force resisting system, designated seismic system, or component listed in the designated schedule of special inspection services prepared by the Architect.
   2. Main wind-force resisting system or a wind-resisting component listed in the designated schedule of special inspection services prepared by the Architect.

1.05 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.
B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
   1. Project quality-control manager may also serve as Project superintendent.
C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
D. Testing and Inspection: Include in quality-control plan a comprehensive schedule of Work requiring testing or inspection, including the following:
   1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
   2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."

3. Owner-performed tests and inspections indicated in the Contract Documents.

E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.06 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

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

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.

2. Notify Architect or Construction Manager seven days in advance of dates and times when mockups will be constructed.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at the Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship indicated in individual Specification Sections and in this Section.
5. Obtain Architect's or Construction Manager's approval of mockups before starting work, fabrication, or construction.
   a) Allow seven days for initial review and each re-review of each mockup.
6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work. Protect from the elements with weather-resistant membrane.
7. Demolish and remove mockups when directed, unless otherwise indicated.

1.07 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
   1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
   2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
   1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
   2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
   3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
   4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
   5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Division 01 Section "Submittal Procedures."

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
   1. Access to the Work.
   2. Incidental labor and facilities necessary to facilitate tests and inspections.

3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
6. Security and protection for samples and for testing and inspecting equipment at Project site.

G. Special Tests and Inspections
1. Provide for tests and inspections as required in Division 01 Section "Code-Required Special Inspections and Procedures".

PART 2 PRODUCTS

2.01 PART 2 NOT USED

A. Part 2 not used.

PART 3 EXECUTION

3.01 INTEGRATED EXTERIOR MOCKUPS

A. Construct integrated exterior mockups in accordance with approved Shop Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual specification sections, along with supporting materials.

B. Schedule of Mockups: Provide the following for segments of building envelope indicated in location directed by Architect:
1. 8' x 8' sample panel wall with the following materials:
a) Window/glazing
b) Brick Veneer, Stone Veneer, Horizontal metal panel siding.
c) Cavity with flashing, ties, insulation, weeps and associated attachments for window/glazing assembly.
d) Coping & associated flashing at top of parapet
2. Panel will serve as a baseline for quality control for exterior envelope

3.02 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Division 01 Section "Cutting and Patching."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

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SECTION 01 4113
BUILDING CODES AND PERMITS

PART 1 GENERAL

1.01 DESCRIPTION

A. Bidders shall be fully informed regarding applicable building codes, ordinances, overlay districts, and regulations, and the procedures for filing applications for permits and fees.

B. The below listed codes and permits are provided for information only and are not intended to be all-inclusive. The Contractor shall check with jurisdictions for applicable codes, permits, fees, or licenses.

C. The applicable codes for work on projects under Local jurisdiction are:

1. Architectural:
   a) International Building Code, 2018 Edition, with Georgia Amendments (2020).
   b) Existing Buildings: Chapter 34 'Existing Buildings' of the Georgia State Amendments.
2. Life Safety:
   a) National Fire Protection Association's NFPA 101, Life Safety Code, 2018 Edition, as modified by the Rules and Regulations of the Georgia Safety Fire Commissioner, Chapter 120-3-3, January 30, 2020.
   b) International Fire Code, 2018 Edition, with Georgia Amendments (2020).
   c) International Fire Code, 2018 Edition, as modified by the Rules and Regulations of the Georgia Safety Fire Commissioner, Chapter 120-3-3, January 30, 2020.
3. Handicap:
   a) American National Standards Institute, ANSI A117.1-2003 Edition.
   b) 2010 Department of Justice ADA Standards for Accessible Design. (Georgia Accessibility Code, 1997 Edition).
   c) Georgia Safety Fire Commissioner, Chapter 120-3-20.
4. Plumbing:
   a) International Plumbing Code, 2018 Edition, with Georgia Amendments (2020).
5. Gas:
   a) International Fuel Gas Code, 2018 Edition, with Georgia Amendments (2020).
6. Mechanical:
   a) International Mechanical Code, 2018 Edition, with Georgia Amendments (2020).
7. Energy:
   a) International Energy Conversation Code, 2015 Edition, with Georgia Amendments (2020).
8. Electrical:
   a) National Electrical Code, 2017 Edition, with Georgia State Amendments; National Fire Protection Association's NFPA 70.
9. Miscellaneous:
   a) Escalators and Elevators: Rules of the Georgia Department of Labor Safety Engineering, Chapter 300-3-6, Escalators and Elevators, effective March 17, 1996; and American National Standards Institute (ANSI) A17.1 (Current Edition).
   b) Local Sign Code.
   c) Georgia Codes website: https://dca.ga.gov/local-government-assistance/construction-codes-industrialized-buildings/construction-codes
   d) Georgia State Fire Marshal website: https://www.oci.ga.gov/FireMarshal/Rules%20and%20Regulations.aspx

PART 2 PRODUCTS

2.01 No Products are required in this Section.

PART 3 EXECUTION

3.01 PERMITS

A. Separate permits must be obtained for:

1. Site Clearing and Grading
2. LDP

3. Building Construction

3.02 APPLICATIONS

A. Applications must be filed with the government identity having jurisdiction.

3.03 COST

A. Cost of permits is determined by a formula applied to cost of each element of the work. This cost must be paid directly to the jurisdiction by the successful Contractor for each of the divisions of the work.

B. It is suggested that each bidder contact each jurisdiction to determine the cost of permits sufficiently in advance of the bid date to avoid last minute rushes.

3.04 CONTROL

A. A copy of all pertinent permits listed in this section must be submitted to the Owner through the Project Architect before a NOTICE TO PROCEED will be issued. The Contractor is reminded that contract time starts running according to the schedule in Section 00 3113 "Construction Schedule and Specific Dates", if included in this Specification; however, the Contractor will not be allowed to proceed until all required documents are on file with the Architect and Owner.

3.05 CONTRACTOR'S LICENSE

A. Contractors planning to bid the projects in the above jurisdictions that are not already licensed therein must take out a business license before they will be permitted to perform work therein.

END OF SECTION

SECTION 01 4533
CODE-REQUIRED SPECIAL INSPECTIONS AND PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Furnish labor, equipment, materials, and services to provide accommodation for special inspections and procedures required to comply with Codes governing this Project and with procedures established by local jurisdictions.

B. This Section includes:
   1. Inspections stipulated in the 2018 International Building Code (IBC), Chapter 17, Structural Tests and Special Inspections.

C. Structural testing and special inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve General Contractor of responsibility for compliance with other construction document requirements.
   1. Specific quality assurance and quality control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
   2. Specified tests, inspections, and related actions do not limit General Contractor's other quality assurance and quality control procedures that facilitate compliance with the construction document requirements.
   3. Requirements for General Contractor to provide quality assurance and quality control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

D. The Owner will engage one or more qualified Special Inspectors and/or Testing Agencies to conduct structural tests and special inspections required by Authorities Having Jurisdiction as the responsibility of the Owner. The structural tests and special inspections required to comply with this Section are listed in the attached "Schedule Of Special Inspection Services" and are further outlined or specified in other Sections of these Specifications.

1.02 REFERENCES

A. American Society for Testing and Materials:
   1. ASTM E329-14 Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.

B. International Code Council:
   1. International Building Code (IBC), 2018.

1.03 DEFINITIONS

A. Approved Agency: An established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved by the building official.

B. Structural Observation: Visual observation of the structural system by a representative of the registered Design Professional's office for general conformance to the approved construction documents. Structural observations are not considered part of the structural tests and special inspections and do not replace inspections and testing by the testing agency or special inspector.

C. Special Inspector: The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection.

D. Special Inspection, Continuous: The full-time observation during the task of performing the indicated portion of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.

E. Special Inspection, Periodic: The part-time or intermittent observation of the indicated portion of work requiring special inspection by an approved special inspector who is present in the area where the work has been or is being performed and at the completion of the work.

F. Testing Agency: A qualified materials testing laboratory under the responsible charge of a licensed professional engineer, approved by the code enforcement official and the Registered Design Professional In Responsible Charge, to measure, examine, test, calibrate, or otherwise determine the characteristics of performance of construction materials and verify confirmation with construction documents.

1.04 QUALITY ASSURANCE

A. Testing Agency Qualifications:
   1. Minimum qualifications of inspection and testing agencies and their personnel shall comply with ASTM E329.
      a) Inspectors and individuals performing tests shall be certified for the work being performed as outlined in the appendix of ASTM E329. Certification by organizations other than those listed must be submitted to the building official for consideration before proceeding with work.
   2. In addition to these requirements, local jurisdiction may have additional requirements. It is the responsibility of the testing and inspection agencies to meet local requirements and comply with local procedures.

B. Precedence Of Special Inspections: The Special Inspector's reports and Testing Agency's results of tests and inspections made pursuant to the requirements of tests and inspections listed in the attached "Schedule of Special Inspection Services" of this Section shall have precedence over reports and tests provided by the General Contractor.

1.05 SUBMITTALS BY SPECIAL INSPECTORS AND/OR TESTING AGENCIES

A. Special Inspectors and/or Testing Agencies engaged by the Owner in order to comply with IBC Chapter 17 and as indicated in the attached "Schedule of Special Inspection Services" shall be permitted to conduct activities, under the direction of the Architect, to generally provide the following:
   1. Verify that fabricators maintain detailed fabrication and quality-control procedures and review the completeness and adequacy of those procedures to perform the Work.
   2. Notify the Architect and General Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
   3. Submit a certified written report of each test, inspection, and similar quality-control service to the Architect, with copy to General Contractor and to Authorities Having Jurisdiction.
   4. Submit a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
   5. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
   6. Perform retesting and re-inspecting of corrected work.

B. Special inspection reports and test results shall include as a minimum the following:
   1. Date and time of inspection or test.
   2. Description of inspection or test performed including location (reference grid lines, floors, elevations, etc)
   3. Indication that work, material, and/or product conforms or does not conform to the Contract Documents.
   4. Name and signature of Special Inspector and/or Testing Agency representative performing the inspection and/or test.

C. Time of Submittal of Inspection and/or Test Results: Reports and tests shall be submitted within seven (7) calendar days of performance of inspection and/or test.

PART 2 PRODUCTS

2.01 (NOT USED)

PART 3 EXECUTION

3.01 CONTRACTOR'S RESPONSIBILITY

A. Coordination: The General Contractor shall schedule Special Inspections and the requirements of this Section in a manner that will not impede the progress of the Work. The Contractor shall provide sufficient notices to allow proper scheduling of all personnel.
B. Network Analysis Schedule (Project Progress Schedule): Provide a copy of the Schedule, including updates as they may occur, to each Special Inspector and Testing Agency listed in the "Schedule of Special Inspection Services".
C. Notification and Access: The Contractor shall provide written notice at least seven (7) calendar days prior to the time special inspection or testing is needed to the listed Special Inspectors and Testing Agencies. The Contractor shall provide direct access to the approved plans and specifications for the Project. The Contractor shall provide safe access for those performing inspections and on-site testing. The Contractor shall provide access-ways at the time of inspections and/or tests to allow Special Inspectors and Testing Agencies to perform the scheduled inspections and/or tests.
D. Submittal of Statements: Once engaged for a Project, each General Contractor responsible for the construction of a Seismic or Wind Resistant system or component listed in the "Statement of Special Inspections" shall submit a written "Contractor's Statement of Responsibility" to the Authority Having Jurisdiction and to the Owner prior to the commencement of work on the system or component.
E. Fabricators: The General Contractor shall submit to the Architect "Fabricator's Certificates of Compliance" for each approved fabricator that is exempt from Special Inspection of shop fabrication and implementation procedures per Section 1704.2 of the International Building Code at the completion of fabrication.
F. Transportation: The General Contractor shall provide transportation means and costs to deliver off-site fabricated items to Testing Agency locations when testing required by the "Schedule of Special Inspections" is to be performed by fixed testing equipment of the Testing Agency and such equipment can not be transported to fabricated item to be tested.
G. Costs For Re-Inspection and/or Re-Testing: In addition to the requirements of other Sections of these Specifications and Project Manual, the General Contractor shall be responsible for the costs of re-inspection and/or re-testing of materials, work, or products listed in the "Schedule of Special Inspection Services" found not to be in compliance with the Contract Documents.

3.02 SCHEDULES AND FORMS

A. Format: The format for the schedules and forms related to this Section for use in the state of Georgia shall be those promulgated by the Structural Engineers Association of Georgia and the American Council of Engineering Companies of Georgia in document ACEC/SEAOG SI GL 01-2012, which can be obtained on-line at www.seaog.org.
   1. The forms listed below are made a part of this Section of the Specifications by reference, with the exception of the "Schedule Of Special Inspection Services" which is attached to this Section. The forms are available on-line at www.seaog.org.
B. Statement Of Special Inspections:
   1. Completed by the Design Professional and submitted by the Design Professional to Authorities Having Jurisdiction.
C. Contractor's Statement Of Responsibility:
   1. Completed by the General Contractor and submitted by the General Contractor to the Authorities Having Jurisdiction and to the Owner prior to the commencement of work on the system or component.
   2. Required only if "Statement Of Special Inspections" contains a "Statement Of Special Inspections Requirements For Seismic Resistance" or a "Statement Of Special Inspections Requirements For Wind Resistance".
D. Schedule Of Special Inspections:
   1. Attached to this Section.
   2. Completed by the Design Professional and submitted by the Design Professional to Authorities Having Jurisdiction.
   3. Used by the General Contractor to schedule the indicated required inspections and/or tests.

E. Statement Of Special Inspections Requirements For Seismic Resistance:
1. Completed by the Design Professional and submitted by the Design Professional to Authorities Having Jurisdiction.

F. Statement Of Special Inspections Requirements For Wind Resistance:
1. Completed by the Design Professional and submitted by the Design Professional to Authorities Having Jurisdiction.

G. Fabricator's Certificate of Compliance:
1. Completed by the Fabricator and submitted by the General Contractor to Authorities Having Jurisdiction and the Design Professional.
2. Submitted by each approved Fabricator that is exempt from Special Inspection of shop fabrication and implementation procedures per IBC Section 1704.2 at the completion of fabrication.

H. Special Inspection Daily Report:
1. Completed by the Special Inspector or Testing Agency and submitted daily to the General Contractor.
2. One copy of this report to remain at job site with the Contractor for review upon request.

I. Special Inspection Interim Report:
1. Completed by the Special Inspector or Testing Agency and submitted when seven (7) inspection or testing dates have been performed to the Authorities Having Jurisdiction and to the Design Professional.
2. One copy of this report to remain at job site with the Contractor for review upon request.

J. Special Inspection Discrepancy Notice:
1. Completed by the Special Inspector or Testing Agency and submitted at each occasion to the General Contractor, the Design Professional, and the Owner.
2. One copy of this report to remain at job site with the Contractor for review upon request.

K. Final Report Of Special Inspections:
1. Completed by the Special Inspector or Testing Agency and submitted by the Special Inspector or Testing Agency to the Design Professional, Authorities Having Jurisdiction, and General Contractor.

END OF SECTION

SCHEDULE OF SPECIAL INSPECTIONS SERVICES					
PROJECT					
		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**	**AGENT***	**DATE COMPLETED**
1705.1.1 Special Cases (work unusual in nature, including but not limited to alternative materials and systems, unusual design applications, materials and systems with special manufacturer's requirements - add additional rows as needed.)	Submittal review, shop (3) and/or field inspection	N			
1. Inspection of anchors post-installed in solid grouted masonry: Per research reports including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, masonry unit, grout, masonry compressive strength, anchor embedment and tightening torque	Field inspection	N	Periodic or as required by the research report issued by an approved source		
2. Aggregate Pier Inspection: The special inspector's responsibilities include, but are not limited to, review of the aggregate pier designer's use of soil parameters as presented in the project soils report, and during construction, verification of aggregate properties, type and number of lifts of aggregate, hole size and depths and top elevations of the pier elements, and applied energy. Additionally, results of qualitative tests on production aggregate pier elements such as modulus load testing, uplift pull-out testing, bottom stabilization tests and dynamic cone penetration tests, shall be reviewed to verify compliance with design specifications.	Field inspection	N	Periodic or as required by the research report issued by an approved source		
1705.2.1 Structural Steel Construction					
1. Fabricator and erector documents (Verify reports and certificates as listed in AISC 360, Section N 3.2 for compliance with construction documents)	Submittal Review	N	Each submittal		
2. Material verification of structural steel	Shop (3) and field inspection		Periodic		
3. Structural steel welding:		N			
a. Inspection tasks Prior to Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-1)	Shop (3) and field inspection	N	Observe or Perform as noted (4)		
b. Inspection tasks During Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-2)	Shop (3) and field inspection	N	Observe (4)		
c. Inspection tasks After Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-3)	Shop (3) and field inspection	N	Observe or Perform as noted (4)		
d. Nondestructive testing (NDT) of welded joints: *see Commentary*		N			
1) Complete penetration groove welds 5/16" or greater in *risk category* III or IV	Shop (3) or field ultrasonic testing - 100%	N	Periodic		
2) Complete penetration groove welds 5/16" or greater in *risk category* II	Shop (3) or field ultrasonic testing - 10% of welds minimum	N	Periodic		

SCHEDULE OF SPECIAL INSPECTIONS SERVICES					
PROJECT					
		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**	**AGENT***	**DATE COMPLETED**
3) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.1	Shop (3) or field radiographic or Ultrasonic testing	N	Periodic		
4) Fabricator's NDT reports when fabricator performs NDT	Verify reports		Each submittal (5)		
4. Structural steel bolting:	Shop (3) and field inspection	N			
a. Inspection tasks Prior to Bolting (Observe, or perform tasks for each bolted connection, in accordance with QA tasks listed in AISC 360, Table N5.6-1)			Observe or Perform as noted (4)		
b. Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360, Table N5.6-2)			Observe (4)		
1) Pre-tensioned and slip-critical joints					
a) Turn-of-nut with matching markings			Periodic		
b) Direct tension indicator			Periodic		
c) Twist-off type tension control bolt			Periodic		
d) Turn-of-nut without matching markings			Continuous		
e) Calibrated wrench			Continuous		
2) Snug-tight joints			Periodic		
c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA tasks listed in AISC 360, Table N5.6-3)			Perform (4)		
5. Visual inspection of exposed cut surfaces of galvanized structural steel main members and exposed corners of the rectangular HSS for cracks subsequent to galvanizing	Shop (3) or field inspection	N	Periodic		
6. Embedments (Verify diameter, grade, type, length, embedment. See 1705.3 for anchors)	Field inspection	N	Periodic		
7. Verify member locations, braces, stiffeners, and application of joint details at each connection comply with construction documents	Field inspection	N	Periodic		
1705.2.2 Cold-Formed Steel Deck					
1. Manufacturer documents (Verify reports and certificates as listed in SDI QA/QC, Section 2, Paragraphs 2.1 and 2.2 for compliance with construction documents)	Submittal Review	N	Each submittal		
2. Material verification of steel deck, mechanical fasteners and welding materials	Shop (3) and field inspection		Periodic		
3. Cold-formed steel deck placement:	Shop (3) and field inspection				
a. Inspection tasks Prior to Deck Placement (Perform the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.1)		N	Perform (4)		
b. Inspection tasks After Deck Placement (Perform the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.2)			Perform (4)		
4. Cold-formed steel deck welding:	Shop (3) and field inspection				
a. Inspection tasks Prior to Welding (Observe the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.3)		N	Observe (4)		
b. Inspection tasks During Welding (Observe the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.4)		N	Observe (4)		
c. Inspection tasks After Welding (Perform the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.5)		N	Perform (4)		

SCHEDULE OF SPECIAL INSPECTIONS SERVICES					
PROJECT					
		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**	**AGENT***	**DATE COMPLETED**
5. Cold-formed steel deck mechanical fastening:	Shop (3) and field inspection				
a. Inspection tasks Prior to Mechanical Fastening (Observe the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.6)		N	Observe (4)		
b. Inspection tasks During Mechanical Fastening (Observe the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.7)		N	Observe (4)		
c. Inspection tasks After Mechanical Fastening (Perform the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.8)		N	Perform (4)		
1705.2.3. Open-Web Steel Joists and Joist Girders					
1. Installation of open-web steel joists and joist girders.		N			
a. End connections - welding or bolted.	per SJI CJ or SJI 100		Periodic		
b.. Bridging - horizontal or diagonal.					
1) Standard bridging.	per SJI CJ or SJI 100		Periodic		
2) Bridging that differs from the specifications listed in SJI CJ or SJI 100.			Periodic		
1705.2.4. Cold-Formed Steel Trusses Spanning 60 feet or Greater					
Verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package	Field inspection	N	Periodic		
1705.3 Concrete Construction					
1. Inspection and placement verification of reinforcing steel and prestressing tendons.	Shop (3) and field inspection	N	Periodic		
2. Reinforcing bar welding:		N			
a. Verification of weldability of bars other than ASTM A706.			Periodic		
b. Inspection of single-pass fillet welds 5/16 or less in size.			Periodic		
c. Inspection of all other welds.			Continuous		
3. Inspection of anchors cast in concrete.	Shop (3) and field inspection	N	Periodic		
4. Inspection of anchors post-installed in hardened concrete members per research reports, or, if no specific requirements are provided, requirements shall be provided by the registered design professional and approved by the building official, including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, concrete minimum thickness, anchor embedment and tightening torque	Field inspection	N	Periodic or as required by the research report issued by an approved source		
a. Adhesive anchors installed in horizontal or upward-inclined orientation that resist sustained tension loads.			Continuous		
b. Mechanical and adhesive anchors note defined in 4a.			Periodic		
5. Verify use of approved design mix	Shop (3) and field inspection	N	Periodic		
6. Prior to placement, fresh concrete sampling, perform slump and air content tests and determine temperature of concrete and perform any other tests as specified in construction documents.	Shop (3) and field inspection	N	Continuous		
7. Inspection of concrete and shotcrete placement for proper application techniques	Shop (3) and field inspection	N	Continuous		
8. Verify maintenance of specified curing temperature and techniques	Shop (3) and field inspection	N	Periodic		

SCHEDULE OF SPECIAL INSPECTIONS SERVICES					
PROJECT					
		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**	**AGENT***	**DATE COMPLETED**
9. Inspection of prestressed concrete:	Shop (3) and field inspection	N			
a. Application of prestressing force			Continuous		
b. Grouting of bonded prestressing tendons			Continuous		
10. Inspect erection of precast concrete members		N	Periodic		
11. Verification of in-situ concrete strength, prior to stressing of tendons in post tensioned concrete and prior to removal of shores and forms from beams and structural slabs	Review field testing and laboratory reports	N	Periodic		
12. Inspection of formwork for shape, lines, location and dimensions	Field inspection	N	Periodic		
13. Concrete strength testing and verification of compliance with construction documents	Field testing and review of laboratory reports	N	Periodic		
1705.4 Masonry Construction					
MINIMUM VERIFICATION REQUIREMENTS					
(A) Level 1, 2 and 3 Quality Assurance:					
1. Prior to construction, verification of compliance of submittals	Submittal Review	N	Prior to Construction		
(B) Level 2 & 3 Quality Assurance:					
1. Prior to construction verification of f'm and f'_{AAC} except where specifically required by the code	Testing by unit strength method or prism test method	N	Prior to Construction		
2. During construction, verification of Slump Flow and Visual Stability Index (VSI) when self-consolidating grout is delivered to project site.	Testing by unit strength method or prism test method	N	Periodic		
(C) Level 3 Quality Assurance:					
1. During construction, verification of f'm and f'_{AAC} for every 5,000 SF	Testing by unit strength method or prism test method	N	Periodic		
2. During construction, verification of proportions of materials as delivered to the project site for premixed or preblended mortar, prestressing grout, and grout other than self-consolidating grout.	Field inspection	N	Periodic		
MINIMUM SPECIAL INSPECTION REQUIREMENTS					
(D) Levels 2 and 3 Quality Assurance:					
1. As masonry construction begins, verify that the following are					
a. Proportions of the site-prepared mortar	Field inspection	N	Periodic		
b. Grade and size of prestressing tendons and anchorages	Field Inspection	N	Periodic		
c. Grade, type, and size of reinforcement, anchor bolts, and prestressing tendons and anchorages	Field Inspection	N	Periodic		

SCHEDULE OF SPECIAL INSPECTIONS SERVICES					
PROJECT					
		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**	**AGENT***	**DATE COMPLETED**
d. Prestressing technique	Field Inspection	N	Periodic		
e. Properties of thin-bed mortar for AAC masonry (b) Required for the first 5,000 square feet (c) Required after the first 5,000 square feet	Field Inspection	N	Level 2 - Continuous[(b)] Level 2 - Periodic[(c)]		
		N	Level 3 - Continuous		
f. Sample panel construction	Field Inspection	N	Level 2 - Periodic		
		N	Level 3 - Continuous		
2. Prior to grouting, verify that the following are in compliance:					
a. Grout space	Field Inspection	N	Level 2 - Periodic		
		N	Level 3 - Continuous		
b. Placement of prestressing tendons and anchorages	Field Inspection	N	Periodic		
c. Placement of reinforcement, connectors, and anchor bolts	Field inspection	N	Level 2 - Periodic		
		N	Level 3 - Continuous		
d. Proportions of site-prepared grout and prestresssing grout for bonded tendons	Field Inspection	N	Periodic		
3. Verify compliance of the following during construction:					
a. Materials and procedures with the approved submittals	Field inspection	N	Periodic		
b. Placement of masonry units and mortar joint construction	Field Inspection	N	Periodic		
c. Size and location of structural members	Field inspection	N	Periodic		
d. Type, size, location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction	Field inspection	N	Level 2 - Periodic		
		N	Level 3 - Continuous		
e. Welding of reinforcement	Field inspection	N	Continuous		
f. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F)	Field inspection	N	Periodic		
g. Application and measurement of prestressing force	Field testing	N	Continuous		
h. Placement of grout and prestressing grout for bonded tendons is in compliance	Field inspection	N	Continuous		
i. Placement of AAC masonry units and construction of thin-bed mortar joints (b) Required for the first 5,000 square feet (c) Required after the first 5,000 square feet	Field inspection	N	Level 2 - Continuous[(b)] Level 2 - Periodic[(c)]		
		N	Level 3 - Continuous		
4. Observe preparation of grout specimens, mortar specimens, and/or prisms	Field inspection	N	Level 2 - Periodic		
		N	Level 3 - Continuous		
1705.5 Wood Construction					
1. For prefabricated wood structural elements, inspection of the fabrication process and assemblies in accordance with Section 1704.2.5.	In-plant review (3)	N	Periodic		
2. For high-load diaphragms, verify grade and thickness of structural panel sheathing agree with approved building plans.	Field inspection	N	Periodic		
3. For high-load diaphragms, verify nominal size of framing members at adjoining panel edges, nail or staple diameter and length, number of fastener lines, and that spacing between fasteners in each line and at edge margins agree with approved building plans	Field inspection	N	Periodic		

SCHEDULE OF SPECIAL INSPECTIONS SERVICES					
PROJECT					
		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**	**AGENT***	**DATE COMPLETED**
4. Metal-plate-connected wood trusses:					
a. Verification that permanent individual truss member restraint/bracing has been installed in accordance with the approved truss submittal package when the truss height is greater than or equal to 60".	Field inspection	N	Periodic		
b. For trusses spanning 60 feet or greater: verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package	Field inspection	N	Periodic		
1705.6 Soils					
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Field inspection	Y	Periodic	1	
2. Verify excavations are extended to proper depth and have reached proper material.	Field inspection	Y	Periodic	1	
3. Perform classification and testing of compacted fill materials.	Field inspection	Y	Periodic	1	
4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of controlled fill	Field inspection	Y	Continuous	1	
5. Prior to placement of controlled fill, inspect subgrade and verify that site has been prepared properly	Field inspection	Y	Periodic	1	
1705.7 Driven Deep Foundations					
1. Verify element materials, sizes and lengths comply with requirements	Field inspection	N	Continuous		
2. Determine capacities of test elements and conduct additional load tests, as required	Field inspection	N	Continuous		
3. Inspect driving operations and maintain complete and accurate records for each element	Field inspection	N	Continuous		
4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element	Field inspection	N	Continuous		
5. For steel elements, perform additional inspections per Section 1705.2	See Section 1705.2	N	See Section 1705.2		
6. For concrete elements and concrete-filled elements, perform tests and additional inspections per Section 1705.3	See Section 1705.3	N	See Section 1705.3		
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge	Field inspection	N	In accordance with construction documents		

SCHEDULE OF SPECIAL INSPECTIONS SERVICES					
PROJECT					
		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**	**AGENT***	**DATE COMPLETED**
1705.8 Cast-in-Place Deep Foundations					
1.Inspect drilling operations and maintain complete and accurate records for each element	Field inspection	N	Continuous		
2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes	Field inspection	N	Continuous		
3. For concrete elements, perform tests and additional inspections in accordance with Section 1705.3	See Section 1705.3	N	See Section 1705.3		
1705.9 Helical Pile Foundations					
Verify installation equipment, pile dimensions, tip elevations, final depth, final installation torque and other installation data as required by construction documents.	Field inspection	N	Continuous		
1705.10 Fabricated items					
1. List of fabricated items requiring special inspection during fabrication:	Shop inspection	N	As noted in each applicable shop activity		
2. List of fabricated items to be fabricated on the premises of a fabricator approved to perform such work without special inspection (including name of approved agency providing periodic auditing):		N			
1705.11.1 Structural Wood Special Inspections For Wind Resistance					
1. Inspection of field gluing operations of elements of the main windforce-resisting system	Field inspection	N	Continuous		
2. Inspection of nailing, bolting, anchoring and other fastening of components within the main windforce-resisting system, including wood shear walls, wood diaphragms, drag struts, braces and hold-downs.	Shop (3) and field inspection	N	Periodic		
1705.11.2 Cold-formed Steel Special Inspections For Wind Resistance					
1.Inspection during welding operations of elements of the main windforce-resisting system	Shop (3) and field inspection	N	Periodic		
2. Inspection of screw attachment, bolting, anchoring and other fastening of components within the main windforce-resisting system, including shear walls, braces, diaphragms, collectors (drag struts) and hold-downs.	Shop (3) and field inspection	N	Periodic		
1705.11.3 Wind-resisting Components					
1. Roof covering, roof deck and roof framing connections.	Shop (3) and field inspection	N	Periodic		
2. Exterior wall covering and wall connections to roof and floor diaphragms.	Shop (3) and field inspection	N	Periodic		
1705.12.1 Structural Steel Special Inspections for Seismic Resistance					
1. Seismic force-resisting systems in SDC B, C, D, E, or F.	Shop (3) and field inspection	N	In accordance with AISC 341		
2. Structural steel elements in SDC B, C, D, E, or F other than those in Item 1. including struts, collectors, chords and foundation elements.	Shop (3) and field inspection	N	In accordance with AISC 341		

SCHEDULE OF SPECIAL INSPECTIONS SERVICES					
PROJECT					
		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**	**AGENT***	**DATE COMPLETED**
1705.12.2 Structural Wood Special Inspections for Seismic Resistance					
1. Field gluing operations of elements of the seismic-force resisting system for SDC C, D, E or F.	Field inspection	N	Continuous		
2. Nailing, bolting, anchoring and other fastening of components within the seismic-force-resisting system including wood shear walls, wood diaphragms, drag struts, shear panels and hold-downs for SDC C, D, E or F.	Shop (3) and field inspection	N	Periodic		
1705.12.3 Cold-formed Steel Light-Frame Construction Special Inspections for Seismic Resistance					
1. During welding operations of elements of the seismic-force-resisting system for SDC C, D, E or F.	Shop (3) and field inspection	N	Periodic		
2. Screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system including shear walls, braces, diaphragms, collectors (drag struts) and hold-downs for SDC C, D, E or F.	Shop (3) and field inspection	N	Periodic		
1705.12.4 Designated Seismic Systems Verification Special Inspections for Seismic Resistance					
For SDC C, D, E or F, inspect and verify that that the component label, anchorage or mounting conforms to the certificate of compliance in accordance with ASCE 7 Section 13.2.2.	Field inspection		Periodic		
1705.12.5 Architectural Components Special Inspections for Seismic Resistance					
1. For SDC D, E or F, inspection during the erection and fastening of exterior cladding and interior or exterior veneer more than 30 feet above grade or walking surface and weighing more than 5 psf.	Field inspection	N	Periodic		
2. For SDC D, E or F, inspection during the erection and fastening of interior nonbearing walls more than 30 feet above grade or walking surface and weighing more than 15 psf.	Field inspection	N	Periodic		
3. For SDC D, E or F, inspection during the erection and fastening of exterior nonbearing walls more than 30 feet above grade or walking surface.		N			
4. For SDC D, E or F, inspection during anchorage of access floors	Field inspection	N	Periodic		
1705.12.6 Plumbing, Mechanical and Electrical Components Special Inspections for Seismic Resistance					
1. Inspection during the anchorage of electrical equipment for emergency or standby power systems in SDC C, D, E or F	Field inspection	N	Periodic		
2. Inspection during the anchorage of other electrical equipment in SDC E or F	Field inspection	N	Periodic		
3. Inspection during installation and anchorage of piping systems designed to carry hazardous materials, and their associated mechanical units in SDC C, D, E or F	Field inspection	N	Periodic		

SCHEDULE OF SPECIAL INSPECTIONS SERVICES					
PROJECT					
		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	**SERVICE**	**Y/N**	**EXTENT**	**AGENT***	**DATE COMPLETED**
4. Inspection during the installation and anchorage of HVAC ductwork designed to contain hazardous materials in SDC C, D, E or F	Field inspection	N	Periodic		
5. Inspection during the installation and anchorage of vibration isolation systems in SDC C, D, E or F where nominal clearance of 1/4 inch or less is required by the approved construction documents	Field inspection	N	Periodic		
6. Inspection during installation of mechanical and electrical equipment, including duct work, piping systems and their structural supports, where automatic fire sprinkler systems are installed in structures assigned to SDC C, D, E, or F to verify one of the following unless flexible sprinkler hose fittings are used:		N			
a. ASCE/SEI 7, Section 13.2.3 minimum required clearances have been provided.	Field inspection	N	Periodic		
b. A three inch or greater nominal clearance has been provided between fire protection sprinkler system drops and sprigs and: structural members not used collectively or independently to support the sprinklers; equipment attached to the building structure; and other systems' piping.	Field inspection	N	Periodic		
1705.12.7 Storage Racks Special Inspections for Seismic Resistance					
Inspection during the anchorage of storage racks 8 feet or greater in height in structures assigned to SDC D, E or F.	Field inspection	N	Periodic		
1705.12.8 Seismic Isolation Systems					
Inspection during the fabrication and installation of isolator units and energy dissipation devices used as part of the seismic isolation system in structures assigned to SDC B, C, D, E or F.	Shop and field inspection	N	Periodic		
1705.12.9 Cold-formed Steel Special Bolted Moment Frames					
Inspection of installation of cold-formed steel special bolted moment frames in the seismic force-resisting systems in structures assigned to SDC D, E or F.	Field inspection	N	Periodic		
1705.13.1 Structural Steel Testing for Seismic Resistance					
1. Nondestructive testing of structural steel in the seismic force-resisting systems in accordance with AISC 341 in structures assigned to SDC B, C, D, E or F.	Field test	N	Periodic		
2. Nondestructive testing of structural steel elements in the seismic force-resisting systems not covered in 1 above including struts, collectors, chords and foundation elements in accordance with AISC 341 in structures assigned to SDC B, C, D, E or F.	Field test	N	Periodic		

SCHEDULE OF SPECIAL INSPECTIONS SERVICES

PROJECT					
		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	SERVICE	Y/N	EXTENT	AGENT*	DATE COMPLETED
1705.13.2 Seismic Certification of Nonstructural Components					
Review certificate of compliance for designated seismic system components in structures assigned to SDC B, C, D, E or F.	Certificate of compliance review	N	Each submittal		
1705.13.3 Seismic Certification of Designated Seismic Systems					
Review certificate of compliance for designated seismic system components in structures assigned to SDC C, D, E or F	Certificate of compliance review	N	Each submittal		
1705.13.4 Seismic Isolation Systems					
Test seismic isolation system in accordance with ASCE 7 Section 17.8 in structures assigned to SDC B, C, D, E or F.	Prototype testing	N	Per ASCE 7		
1705.14 Sprayed Fire-resistant Materials					
1. Verify surface condition preparation of structural members	Field inspection	N	Periodic		
2. Verify minimum thickness of sprayed fire-resistant materials applied to structural members	Field inspection	N	Periodic		
3. Verify density of the sprayed fire-resistant material complies with approved fire-resistant design	Field inspection and testing	N	Per IBC Section 1705.14.5		
4. Verify the cohesive/adhesive bond strength of the cured sprayed fire-resistant material	Field inspection and testing	N	Per IBC Section 1705.14.6		
5. Condition of finished application	Field inspection	N	Periodic		
1705.15 Mastic and Intumescent Fire-Resistant Coatings					
Inspect and test mastic and intumescent fire-resistant coatings applied to structural elements and decks per AWCI 12-B	Field inspection and testing	N	Periodic		
1705.16 Exterior Insulation and Finish Systems (EIFS)					
Inspection of water-resistive barrier over sheathing substrate	Field inspection	N	Periodic		
1705.17 Fire-Resistant Penetrations and Joints					
1. Inspect penetration firestop	Field testing	N	Per ASTM E2174		
2. Inspect fire-resistant joint systems	Field testing	N	Per ASTM E2393		
1705.18 Smoke Control Systems					
1. Leakage testing and recording of device locations prior to concealment	Field testing	N	Periodic		
2. Prior to occupancy and after sufficient completion, pressure difference testing, flow measurements, and detection and control verification	Field testing	N	Periodic		

* INSPECTION AGENTS FIRM	ADDRESS	TELEPHONE NO.
1. TESTING AGENCY (T.B.D.)		
2.		
3.		
4.		

Notes: 1. The inspection and testing agent(s) shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of the Special Inspector(s) and/or testing agencies may be subject to the approval of the Building Official and/or the Design Professional.

2. The list of Special Inspectors may be submitted as a separate document, if noted so above.

3. Shop Inspections of fabricated items are not required where the fabricator is approved in accordance with IBC Section 1704.2.5.1 and listed in activity 1709.2.

4. Observe: Observe on a random basis, operations need not be delayed pending these inspections. Perform: These tasks shall be performed for each welded joint, bolted connection, or steel element.

5. NDT of welds completed in an approved fabricator's shop may be performed by that fabricator when approved by the AHJ. Refer to AISC 360, N6.

Are *Special Inspections for Seismic Resistance* included in the *Statement of Special Inspections*? **No**

Are *Special Inspections for Wind Resistance* included in the *Statement of Special Inspections*? **No**

DATE: 20-Aug-21

SECTION 01 5000
TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SUMMARY

A. Furnish labor, equipment, materials and services to provide temporary utilities, support facilities, security and protection facilities, and project signage as described in this Section.

B. Related Sections include, but may not be limited to, the following:
   1. Division 00 Section "Special Conditions" for work restrictions and limitations on utility interruptions.
   2. Division 01 Sections for project phasing, work restrictions and limitations on utility interruptions.
   3. Division 32 Section "Site Concrete Work" for construction and maintenance of cement concrete pavement for temporary roads and paved areas.

1.02 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.

B. Sewer Service: Pay sewer service use charges for sewer usage by all entities for construction operations.

C. Water Service: Pay water service use charges for water used by all entities for construction operations.

D. Electric Power Service: Pay electric power service use charges for electricity used by all entities for construction operations.

1.03 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage, and protocols for mitigating water intrusion into completed Work, and replacing water damaged Work.

C. Shop Drawings
   1. Project Signs: Drawings for Architect approval indicating location and orientation on site, layout of graphic and text, proposed methods of support.

1.04 SAFETY PROVISIONS

A. Owners Safety and Traffic Regulations: Contractor shall observe Owners Safety and Traffic Regulations and not place, store, nor park any vehicle or materials in any locations not designated or assigned by the Owner that may interfere with operations simultaneously in progress.

B. Regulations: Contractor shall comply with recommendations and requirements for accident prevention of the Associated General Contractors of America and the United States Standards Association Standard A10.2. Field superintendent of Contractor shall conduct regular and frequent inspections of the site for compliance with safety regulations.

C. First Aid: The Contractor shall agree that work will be completed with the greatest degree of safety and to conform to the provisions of the Manual of Accident Prevention in construction published by the Associated General Contractors of America, latest edition. Articles necessary for giving "first aid" shall be maintained in the Contractor's field office at the site. There shall be standing arrangements for immediate removal and hospital treatment of any employee injured or who may become ill and require such treatment.

D. OSHA Standards: Contractor's attention is directed to safety, health, first aid and medical provisions of the Occupational Safety and Health Standards, Federal Register Vol. 37/No. 202, Part II and Safety and Health Regulations for Construction, Federal Register Vol.

37/No. 243, Part II for conformance in the areas of the Work, implementing Occupational Safety and Health Act of 1970, including all subsequent revisions.

E. Fire Precautions: Whenever any welding or acetylene cutting is in progress, Contractor shall provide man or men equipped with adequate and approved fire extinguishing equipment to prevent a resultant fire; such watchmen shall be instructed as to location of nearest telephones and fire alarm stations by the Contractor's Safety Engineer or person so designated and be guided by his instructions. Also, when welding or cutting is being performed in the areas where wall and floor finishes are subject to being damaged by sparks and molten metal (such as carpet, etc.) the Contractor shall provide covering materials suitable to prevent such damage. At times when portable heating equipment is in use or other fire hazards are involved, Contractor shall provide a watchman when no other personnel are on the project. Temporary heating equipment shall be operated in accordance with standards set forth in NFPA Bulletin No. 241. Interim electrical wiring shall be installed with the requirements of NFPA Bulletin No. 70 or any stricter code of any governmental agency having jurisdiction.

1.05 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines.

1.06 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 PRODUCTS

2.01 MATERIALS

A. Chain-Link Fencing: Contractor shall construct temporary fences as required to keep public from areas where work is being performed that is readily accessible from outside the immediate area and to secure stored equipment.

B. Portable Chain-Link Fencing: Minimum 2 inch (50 mm), 0.148 inch (3.8 mm) thick, galvanized steel, chain-link fabric fencing; minimum 2-3/8 inch (60 mm) OD line posts and 2-7/8 inch (73 mm) OD corner and pull posts, with 1-5/8 inch (42 mm) OD top and bottom rails. Provide concrete bases for supporting posts.

C. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10 mils (0.25 mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84.

D. Dust Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches (914 by 1624 mm).

E. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

F. Medium Density Overlay (MDO) Panels: Exterior-type plywood bearing an APA or Engineered Wood Association trademark, and conforming to U.S. Product Standard PS-1. Finish one side with an opaque, phenolic-resin impregnated, smooth, fiber (paper) overlay with minimum 28% resin content. provide seamless panel face.

2.02 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, Construction Manager, and construction personnel office activities and to

accommodate project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:

1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
2. Conference room of sufficient size to accommodate meetings of 10 individuals. Provide electrical power service and 120-V ac duplex receptacles, with not less than 1 receptacle on each wall. Furnish room with table, chairs, and 4-foot (1.2 m) square tack and marker boards.
3. Drinking water and private toilet.
4. Coffee machine and supplies.
5. Heating and cooling equipment necessary to maintain a uniform indoor temperature.
6. Lighting fixtures capable of maintaining average illumination of 20 fc (215 lx) at desk height.

C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
   1. Store combustible materials apart from building.

2.03 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 EXECUTION

3.01 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.02 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.
   1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
   1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.

C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.

D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

E. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

F. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
   1. Install electric power service overhead or underground, unless otherwise indicated.
   2. Connect temporary service, when permitted by Owner, to Owner's existing power source, as directed by Owner.

G. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
   1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

2. The Contractor shall provide and maintain temporary lighting throughout the structure in order to achieve a minimum 10 fc of lighting at all task levels where construction trades are performing a construction task or service under the work.
3. The minimum 10 fc lighting level at all task levels shall be available for routine Owner's and Project Architect/Engineer observation of the work during the construction phase of the project.
4. Lighting shall be LED type. No fluorescent lighting will be permitted.
5. Additional lighting shall be provided as may be required for code and task purposes.
6. Install lighting for Project identification sign.

H. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install at least one telephone line for each field office.
1. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

I. Electronic Communication Service:
1. Printer: "All-in-one" unit equipped with printer server, combining color printing, photocopying, scanning, and faxing, or separate units for each of these 3 functions.
2. Internet Service: Broadband modem, router and ISP, equipped with hardware firewall, providing minimum 4G Cellular Modem, 6Mbps DSL or better, or 25 Mbps or better speeds at each computer.
3. Internet Security: Integrated software, providing software firewall and anti-malware on computer.

3.03 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:
1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet (9 m) of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Final Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Temporary Roads and Paved Areas: Construct and maintain temporary roads for construction operations. Locate temporary roads and paved areas within construction limits indicated on Drawings.
1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.

C. Temporary Use of Permanent Roads: Where permitted by Architect, locate temporary roads and paved areas in same location as permanent roads. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads, within construction limits indicated, as necessary for construction operations.
1. Coordinate elevations of temporary roads with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads according to Division 02 Section "Earthwork".

D. Traffic Controls: Comply with requirements of authorities having jurisdiction.
1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.

F. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted. This paragraph does not address or limit the General Contractor's or subcontractor's logo signs on Field Office units.
1. Identification Signs: Provide Project identification signs as indicated below. Architect shall provide sign content and general layout of graphics and text. Signs shall include, however, at least the following:

a) 12 x 8 Sign: Twelve feet by eight feet sign constructed from 0.75 inch MDO plywood in three panels. Orient horizontally. Include building elevation or perspective view graphic as provided by Architect; name, address, contact number, and logo of Architect; name, address, contact number, and logo of Owner or Developer; name, address, contact number, and logo of GC; name, address, contact number, and logo of financial lending institution; information on community involvement, if any. Provide identification of each entity at sizes indicated by Architect. Provide structural support adequate to ensure survival until Substantial Completion.

2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
   a) Provide temporary, directional signs for construction personnel and visitors.
3. Maintain and touchup signs so they are legible at all times.

G. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with other Division 01 Sections for progress cleaning requirements.

H. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.04 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

B. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

C. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Obtain extended warranty for Owner. Perform control operations lawfully, using environmentally safe materials.

D. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates unless otherwise directed by Owner.
1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.

E. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.

F. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

G. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.05 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
   1. Protect porous materials from water damage.
   2. Protect stored and installed material from flowing or standing water.
   3. Keep porous and organic materials from coming into prolonged contact with concrete.
   4. Remove standing water from decks.
   5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
   1. Do not load or install porous materials or components, or items with high organic content, into partially enclosed building.
   2. Keep interior spaces reasonably clean and protected from water damage.
   3. Periodically collect and remove waste containing cellulose or other organic matter.
   4. Discard or replace water-damaged material.
   5. Do not install material that is wet.
   6. Discard, replace or clean stored or installed material that begins to grow mold.
   7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
   1. Use permanent HVAC system to control humidity.
   2. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
      a) Hygroscopic materials that may support mold growth, including wood-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
      b) Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record daily readings over a forty-eight hour period. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
      c) Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.06 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with 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 Contractor. Owner reserves right to take possession of Project identification signs.

2. Remove temporary roads not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 01 Section "Closeout Procedures".

END OF SECTION

SECTION 01 6100
MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes specific administrative and procedural requirements for selection of products for use in this Project; product delivery, storage, and handling; and hazardous materials or products.

1.02 DEFINITIONS

A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
   1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
   2. New Products: Items that have not previously been incorporated into another project or facility, except that products consisting of recycled-content materials are allowed, unless explicitly stated otherwise. Products salvaged or recycled from other projects are not considered new products.

1.03 QUALITY ASSURANCE

A. All materials, equipment and supplies incorporated into the Work shall unless specifically noted otherwise be new, of good quality and free from defects.

B. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
   1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
   2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

C. Basis of Design: Where a specific manufacturer's product is named and accompanied by the words "basis of design", "design basis", or "layout basis", that product has been used in designing the relationship of other building components to that product. If the General Contractor elects to provide products from the other listed "Acceptable Manufacturers", the relationship of other building components to the product elected to be used shall be adjusted, at the General Contractor's cost, to accommodate the elected product.
   1. Information on Drawings and in Specifications establishes requirements for systems' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

B. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.

C. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

D. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

E. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Store cementitious products and materials on elevated platforms.
5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.

PART 2 PRODUCTS

2.01 PRODUCT SELECTION

A. Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
B. Where products are accompanied by the term "as selected," Architect will make selection.
C. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
D. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.
E. Visual Matching Specification: Where Specifications require matching an established Sample, select a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

2.02 HAZARDOUS MATERIAL USE

A. Each hazardous material must receive approval prior to being brought onto the job site or prior to any other use in connection with this contract. Allow a minimum of ten (10) working days for processing of the request for use of a hazardous material.
B. Any work or storage involving hazardous chemicals or materials must be done in a manner that will not expose Owner, Contractor, or Architect employees to any unsafe or unhealthful conditions. Copies of the MSDS for hazardous materials shall be kept on site during construction.
C. Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material enclosed within testing devices, and devices manufactured specifically for testing, such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocynates, lead-based paint are prohibited.
    1. The Architect, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials.

PART 3 EXECUTION

3.01 INSTALLATION (Not Used)

END OF SECTION

SECTION 01 6201
SUBSTITUTIONS AND PRODUCT OPTIONS

PART 1 GENERAL

1.01 PRODUCTS

A. Products are specified by ASTM or other reference standard and/or by manufacturer's name and model number or trade name. When specified only by reference standard, General Contractor may select any product meeting this standard, by any manufacturer. When several products or manufacturers are specified as being equally acceptable, General Contractor has the option of choosing among those named.

B. Specific reference in the specifications to any article, device, product, material, fixture, form or type of construction, etc., by name, make or catalog number is intended to establish the minimum standard of quality, function and/or performance acceptable for the project. The Contractor may, at his option, use any article, device, product, material, fixture, form or type of construction which in the judgment of the Architect, expressed in writing is equivalent to the named.

C. Basis of Design: Where a specific manufacturer's product is named and accompanied by the words "basis of design", "design basis", or "layout basis", that product has been used in designing the relationship of other building components to that product. If the General Contractor elects to provide products from the other listed "Acceptable Manufacturers", the relationship of other building components to the product elected to be used shall be adjusted, at the General Contractor's cost, to accommodate the elected product.
   1. Information on Drawings and in Specifications establishes requirements for systems' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.

D. Compatibility Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.02 SUBSTITUTIONS / PRIOR APPROVALS

A. In order to allow the fullest competition, consistent with the Owner's interests, the Architect will give consideration, prior to submission of proposals, to requests from the bidding General Contractors only for approval of products and material competitive with and similar to those specified by proprietary name. To be considered, and in order to facilitate the Architect's review of requests for approval and substitutions for specified products or materials, all such requests shall be made in writing at least ten (10) days prior to date of receiving bids. Requests received by the Architect after this date will be considered only at the Architect's option. Requests submitted electronically, such as by e-mail, shall be rejected unless followed-up with hard copy.

B. If it is desired to use products different from those indicated in the Contract Documents, the party requesting the substitution shall make written application through one of the qualified Bidders as described herein. The burden of proving equality of proposed substitutions rests on the party making the request for substitution.

C. Requests for substitution shall be accompanied by such physical items or technical data as the party making the request desires to submit. Determination as to acceptability of proposed substitutions will be made solely upon data submitted. The Architect will consider reports from independent testing laboratories, verified experience records from previous users, and other printed or written information valid in the circumstances.

D. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
   1. Requested substitution shall indicate in what respects proposed materials or products differ from those specified.

2. Requested substitution is consistent with the Contract Documents and will produce indicated results.
3. Substitution request is fully documented and properly submitted.
4. Requested substitution is compatible with other portions of the Work.
5. Requested substitution has been coordinated with other portions of the Work.

E. Request for substitution shall be accompanied by the manufacturer's printed recommendations describing the installation, use and care, as applicable, of the proposed substitution.

F. If a proposed substitution is approved by Architect, an addendum will be issued for prospective Bidders not less than five days prior to the date set for opening of bids. Unless substitutions are received and approved as described above, the successful Bidder shall be responsible for furnishing materials and products in accordance with the Contract Documents.

1.03 REQUESTS FOR PRIOR APPROVAL

A. Substitution Requests: Submit two copies of each request, and accompanying data, for consideration and provide the following minimum information:
1. Date of Request.
2. Project Bid Date.
3. Name of Party proposing substitution.
4. Project Name.
5. Specification Section and Paragraph.
6. Specified Item.
7. Proposed Substitution.
8. Statement indicating why specified material or product cannot be provided.
9. Deviations from the specified item.
10. Effect on Contractor's Construction Schedule.
11. Manufacturer's recommendations for use and installation: (List Recommendations)
12. Change in other work, also including construction performed by Owner and separate contractors, to permit use of proposed substitute: (List all changes. Changes not listed will be considered as being per Contract Documents. Submit drawings if required for clarity.)
13. Technical data to support request for approval: (List ASTM designation met, submit testing laboratory reports and experience records, etc.)
14. Other supporting data: (Submit brochures, samples, drawings, etc.)

1.04 EXECUTION

A. In connection with the use of any substitute item approved by the Architect, it shall be the General Contractor's responsibility to see that such items meet all space requirements, and that alternate items are properly made at no increase in cost to the Owner, and that all items are in compliance with the specification requirements.

END OF SECTION

SECTION 01 7329
CUTTING AND PATCHING

PART 1 GENERAL

1.01 DESCRIPTION

A. This Section establishes general requirements pertaining to cutting, fitting and patching of the work required to:
   1. Make the several parts fit properly.
   2. Uncover Work to provide for installation, inspection or both of ill-timed Work.
   3. Remove and replace defective work and/or work not conforming to the requirements of the Contract Documents.

B. Related work described elsewhere:
   1. In addition to other requirements, at the Architect's request, uncover work to provide for inspection by the Architect of covered work and remove samples of installed materials for testing.
   2. Do not cut or alter work performed under separate contract without the Architect's written permission.

1.02 QUALITY ASSURANCE

A. Perform all cutting and patching in strict accordance with pertinent requirements of these specifications and, in the event no such requirements are determined, in conformance with the Architect's written direction.

1.03 SUBMITTALS

A. Request for Architect's consent:
   1. Prior to cutting which affects structural performance or functioning building systems, submit a written request to the Architect for permission to proceed.
   2. Should conditions of the work, or schedule, indicate a required change of materials or methods for cutting and patching, so notify the Architect and secure his written permission prior to proceeding.

B. Notices to the Architect:
   1. Prior to cutting and patching performed pursuant to the Architect's instructions, submit cost estimate to the Architect. Secure the Architect's approval of cost estimates and type of cost reimbursement before proceeding with cutting and patching.
   2. Submit written notice to the Architect designating time the work will be uncovered, to provide for the Architect's observation.

PART 2 PRODUCTS

2.01 MATERIALS

A. Replacement of work removed: Use materials which comply with the pertinent Sections of these Specifications. For cutting and patching of existing exposed construction of visual importance, use materials approved by the Architect.

B. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with requirements in Division 01 sustainable design requirements Section.

2.02 PAYMENT FOR COSTS

A. The Owner will reimburse the Contractor for cutting and patching work, other than work described in sub-Part 1.01 above and performed pursuant to the Architect's written request, after claim for such reimbursement is submitted by the Contractor. Perform all other cutting and patching needed to comply with the Contract Documents at no additional cost to the Owner.

PART 3 EXECUTION

3.01 CONDITIONS

A. Inspect existing conditions, including elements subject to movement or damage during cutting, excavating backfilling, and patching.
B. After uncovering the work, inspect conditions affecting installation of new work.

3.02 DISCREPANCIES

A. If uncovered conditions are not as anticipated, immediately notify the Architect and secure needed directions.
B. Do not proceed in areas of discrepancy until all such discrepancies have been fully resolved.

3.03 PREPARATION PRIOR TO CUTTING

A. Provide all required protection including, but not necessarily limited to, shoring, bracing and support to maintain structural integrity of the work. Also, protect finishes from sparks, molten metal, abrasions and dust.

END OF SECTION

SECTION 01 7423
CLEANING

PART 1 GENERAL

1.01 DESCRIPTION

A. Work Included: Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.
B. Related work described elsewhere: In addition to standards described in this Section, comply with all requirements for cleaning up as described in various other Sections of these Specifications.

1.02 JOB CONDITIONS

A. Fire Protection: Store volatile waste in covered metal containers and remove from premises daily.
B. Pollution Control: Conduct clean-up and disposal operations to comply with local ordinances and anti-pollution laws.
   1. Disposal of waste materials on the project site is not permitted.
   2. Disposal of volatile fluid wastes (such as mineral spirits, oil or paint thinner) in storm or sanitary sewer systems or into streams or waterways is not permitted.

1.03 QUALITY ASSURANCE

A. Inspections: Conduct daily inspection and more often if necessary, to verify that requirements of cleanliness are being met.
B. Codes and Standards: In addition to the standards described in this Section, comply with all pertinent requirements of governmental agencies having jurisdiction.

PART 2 PRODUCTS

2.01 CLEANING MATERIALS AND EQUIPMENT

A. Provide all required personnel, equipment and materials needed to maintain the specified standard of cleanliness.

2.02 COMPATIBILITY

A. Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the Architect.

PART 3 EXECUTION

3.01 PROGRESS CLEANING

A. Do not allow the accumulation of scrap, debris, waste material and other items not required for construction of this work.
B. At least twice each month, and more often if necessary, completely remove all scrap, debris and waste material from the job site.
C. Provide adequate storage for all items awaiting removal from the job site, observing all requirements for fire protection and protection of the ecology.
D. At reasonable intervals, inspect the site and pickup all scrap, debris and waste material. Remove all such items to the place designated for their storage.
E. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site; restack, tidy or otherwise service all arrangements to meet the requirements of subparagraph 3.01 A above.
F. Maintain the site in a neat and orderly condition at all times.
G. Daily, remove all broken glass and demolished materials with sharp or hazardous edges or points from the job site.
H. Lower waste materials in a controlled manner with as few handlings as possible, do not drop or throw materials from heights.
I. During renovation of work related to occupied areas of existing building, waste materials, rubbish and debris shall be removed on a continual basis to assure no accumulation that

might result in a hazard to the occupants of the building. Provide adequate containers and locate on site for collection of waste materials, rubbish and debris.

J. As required preparatory to installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using all equipment and materials required to achieve the required cleanliness.
K. Clean the finished floors daily (and more often if necessary) at all times while work is being performed in the space in which finish materials exist. "Clean" for the purpose of this subparagraph, shall be interpreted as being equal to adjacent undisturbed areas.
L. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on fresh, newly painted surfaces.

3.02 FINAL CLEANING

A. Definition: Except as otherwise specifically provided, "clean" (for the purpose of this subparagraph) shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
B. General: Prior to completion of work, remove from the job site all tools, surplus materials, equipment, scrap, debris and waste. Conduct final progress cleaning as described above.
C. Site: Unless otherwise specifically directed by the Architect, broom clean all paved areas on the site. Rake clean all other surfaces of ground. Completely remove all resultant debris.
D. Exterior: Visually inspect all exterior surfaces and remove all traces of soil, waste material, smudges and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. If necessary to achieve a uniform degree of exterior cleanliness, hose down the exterior of the structure for removal of mud splashes.
E. Interior: Visually inspect all interior surfaces and remove all traces of soil, waste material, smudges and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. Remove all paint droppings, spots, stains, and dirt from finished surfaces. Use only the specified cleaning materials and equipment.
F. Repair, patch and touch-up marred surfaces to match adjacent finishes.
G. Clean ducts, blowers and coils and replace HVAC filters.
H. Maintain cleaning until the building or portion thereof is occupied by the Owner.
I. Timing: Schedule final cleaning as approved by the Architect to enable the Owner to accept a completely clean project.

END OF SECTION

SECTION 01 7719
CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

A. Closeout is hereby defined to include the general requirements near the end of the Contract Time, in preparation for final acceptance, final payment, normal termination of the Contract, occupancy by the Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in the sections of Division 1 through 33. The time of closeout is recognized to be directly related to "Substantial Completion" and therefore may be initiated either by a single time period for the entire Work, or by times for each of the phases of the Work which have been certified as Substantially Complete at different dates. That time variation (if any) shall be applicable to other provisions of this Section, regardless of whether resulting from "phased completion" originally specified by the Owner and Contractor.

B. After the Contractor receives an executed copy of "A Notice of Substantial Completion" of the project, he shall, in order to insure an orderly and efficient transfer of the project to the Owner, prepare, assemble and transmit the documents, brochures and drawings herein required in one package. (Piecemeal delivery of separate elements of the documents will not be accepted.)

C. Generally, two (2) copies of all close-out documents, plans, brochures, warranties or other data shall be transmitted to the Architect for approval, unless otherwise stated.

1.02 IDENTIFICATION

A. Brochures, catalogs and similar bound material shall be identified with the use of an embossed plastic tape on the front cover. Information to show the name of the project and number if so identified, the nature of the information, and the date of submittal, as well as the name of the subcontractor making installation

1.03 PREREQUISITES FOR SUBSTANTIAL COMPLETION

A. Prior to requesting Architect's inspection for certification of Substantial Completion, as required by the General Conditions (for either the entire work or portions thereof), complete the following and list all known exceptions in the request:
   1. Prepare and submit to the Architect a comprehensive list of items (punch list) to be completed or corrected prior to final payment.
   2. Submit last progress payment request, with sworn statement showing 100 percent completion of the work, complete with associated releases, consents and supports.
   3. Advise Owner of pending insurance change-over requirements.
   4. Obtain and submit final certificates from local governmental agencies that the construction has been inspected as required by laws or ordinances and that the work is acceptable.
   5. Obtain and submit Occupancy Permits, Operating Certificates, Final Inspection/Test Certificates, and similar releases enabling Owner's full and unrestricted use of the work and access to services and utilities.
   6. Complete start-up testing of systems and instructions of Owner's operating/maintenance personnel.
   7. Submit test and balance reports.

1.04 PREREQUISITES FOR FINAL ACCEPTANCE

A. Certification for Final Acceptance: Prior to requesting final payment, as required by the General Conditions, complete the following and list known exceptions (if any) in request:
   1. Submit final payment request with final release and supports not previously submitted and accepted.
   2. Submit record documents, special guarantees, warranties, workmanship bonds, maintenance agreements, final certifications and similar documents. Submit final Test and Balance Reports.

3. Submit copy of Architect's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance.
4. Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner.
5. Make final change-over of locks and transmit keys to Owner, and advise Owner's personnel to change-over in security provisions.
6. Complete final cleaning
7. Close-Out Document Check-Off List: Submit two (2) copies of the completed "Close-Out Document Check-Off List" attached to this Section. This list is included in order to provide for an orderly submittal of close-out documents, and does not relieve the Contractor of providing additional documents that may be required by other Sections of this Project Manual or by Authorities Having Jurisdiction.

PART 2 REQUIRED CLOSING DOCUMENTS

2.01 CONTRACTOR'S WARRANTY

A. Contractor's One Year Warranty: Reference is hereby made to the General Conditions, Modifications To The General Conditions, Special Conditions, and Specifications, in which the one (1) year warranty of the General Contractor is required to be submitted, unless a warranty for a longer period of time is specified for certain Sections of the work such as roof bonds, etc., in which case the longer period shall govern. Submit in exact form as attached to this Section.

2.02 EXTENDED WARRANTIES

A. Where required by individual Sections of these Specifications, furnish separate warranties in excess of the "One-Year Warranty". All such warranties shall be furnished with installation dates and required data filled in by the Contractor.

2.03 RECORD DOCUMENT SUBMITTALS

A. Specific requirements for record documents are indicated in individual Sections and of these Specifications. The general requirements are indicated in this Section, with additional provisions indicated in Divisions 21, 22, 23, 26, 27 and 28 for mechanical and electrical work. See Section 01 7839 "Project Record Documents". Do not use record copy of documents for any purpose other than recording changes in the work.

2.04 STATUTORY AFFIDAVIT (GENERAL CONTRACTOR AND SUBCONTRACTOR)

A. Before final acceptance of the Work, the General Contractor shall furnish a Statutory Affidavit in the exact form as attached to this Section.

2.05 INSPECTION REPORTS

A. Secure and submit to the Owner, through the Architect, a certification from the local governmental agency or agencies that the construction has been inspected as required by laws or ordinances and that the building is acceptable to the following authorities listed in Section 01 4113 "Inspections".

2.06 KEYS

A. Contractor shall assemble, tag and deliver to Owner all keys required by the Finish Hardware section of these Specifications. Contractor shall prepare and furnish with the keys an itemized key schedule in quintuplicate listing the door or room number and/or description, serial number of key, and number of keys being delivered for each door and lock.
B. The Contractor shall secure from the Owner or his designated agent a signed receipt in triplicate acknowledging receipt of keys and key schedule. Contractor shall retain one (1) copy and forward two (2) copies of receipt to Architect.

2.07 CERTIFICATE of SUBSTANTIAL COMPLETION AND FINAL CERTIFICATE for PAYMENT

A. A Certificate of Substantial Completion for the project will be prepared by the Architect for the purpose of establishing a date when the project is sufficiently complete (to be

suitable for the use it is intended). Said date will establish the commencement of the warranty period, transition of insurance and maintenance responsibilities and establish the date terminating any liquidated damages attributable to the Substantial Completion portion of the project. A listing of items of work duly noted by the Architect to be in need of completion and/or correction will be attached to the Certificate. Contractor will be allowed twenty (20) calendar days to complete correction of deficient work. At the time of the Architect's Substantial Completion Inspection the General Contractor is to provide a person or persons to accompany the Architect for the purpose of documenting the items needing completion or correction. Such list shall then be prepared by the General Contractor and transmitted to the Architect.

B. A final Certificate for Payment will be prepared by the Architect for the purpose of establishing the date of final acceptance of the Project by the Owner. The Certificate will acknowledge that a Final Inspection was conducted by the Architect verifying that all previous deficiencies and incomplete work has been satisfactorily completed. The Contractor's execution of the final Certificate for Payment shall be accompanied by all remaining required Project Close-Out Documents. At the time of the Architect's Final Completion Inspection the General Contractor is to provide a person or persons to accompany the Architect for the purpose of documenting the items needing completion or correction. Such list shall then be prepared by the General Contractor and transmitted to the Architect.

2.08 CONSENT OF SURETY COMPANY

A. Prior to issuance of Final Payment, Contractor shall submit an executed Consent of Surety Company to Final Payment, AIA Document G707.

2.09 OPERATION AND MAINTENANCE MANUALS

A. Organize maintenance and operating manual information into suitable sets of manageable size, and bind into individual binders properly identified and indexed (thumb-tabbed); examples: Air Conditioning Equipment Maintenance, Roof Maintenance. Include emergency instructions, spare parts listing, warranties, guarantees, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawings, product data, and similar applicable information. Bind each manual of each set in a heavy-duty, minimum 2 inch, 3-ring vinyl-covered binder, and include pocket folders for folded sheet information. Mark identification on both the front and spine of each binder. Submit Operation and Maintenance manuals at time of General Operating and Maintenance Instructions described below, and prior to requesting Architect's inspection for certification of Substantial Completion.

PART 3 EXECUTION

3.01 CLOSEOUT PROCEDURES

A. General Operating and Maintenance Instructions: Prior to requesting Architect's inspection for certification of Substantial Completion, arrange for each installer of work requiring maintenance (by the Owner) or operation, to meet with the Owner's personnel, in the Architect's presence, at the project site, to provide basic instructions needed for proper operation and maintenance of the entire work. Include instructions by manufacturer's representative where installers are not expert in the required procedures. Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants and similar shut-down emergency operations, noise and vibration adjustments, safety, economy/efficiency adjustments, and similar operations. Review maintenance and operations in relation with applicable guarantees, warranties, agreements to maintain, bonds and similar continuing commitments.

3.02 TIME OF FINAL CLEANING

A. Following Architect's certification of "Substantial Completion" and immediately before his "Final Acceptance" inspection.

3.03 REMOVAL OF PROTECTION

A. Except as otherwise indicated or requested by the Architect, remove temporary protection devices and facilities which were installed during the course of the work to protect previously completed work or hazardous conditions during the remainder of the construction period.

3.04 FIRE EXTINGUISHERS

A. Fire extinguishers shall be left charged and ready for use. The extinguisher shall bear a tag showing the date tested and by whom.

3.05 COMPLIANCES

A. Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at the site, or bury debris or excess materials on the Owner's property, or discharge volatile or other harmful or dangerous materials into drainage systems; remove waste materials from the site and dispose of in a lawful manner satisfactory to Local Jurisdiction's solid waste disposal ordinance. Where extra materials of value remaining after completion of the associated work have become the Owner's property, dispose of these to Owner's best advantage as directed.

3.06 CONTINUING INSPECTIONS

A. Except as otherwise required by special guarantees, warranties, agreements to maintain, workmanship bonds, and similar continuing commitments, comply with the Owner's requests to participate in inspections at the end of each time period of such continuing commitments. Participate in the general inspection(s) of the work approximately one year beyond the date(s) of Substantial Completion.

END OF SECTION

WARRANTY
BY GENERAL CONTRACTOR

OWNER: _____

JOB NAME: _____PROJECT NO _____

ADDRESS: _____

COUNTY OF: _____

STATE OF: _____

DATE:_____

_____, as General Contractor on the above job do hereby guarantee that all work executed under the Plans and Specifications will be free from defect of materials and/or workmanship for a period of ONE YEAR _____, beginning _____ and ending _____, and that all defects occurring within the warranty period shall be replaced or repaired at no cost to the Owner.

This guarantee covers all work as shown on the plans and specified in the Specifications and Contract Documents.

Nothing in the above shall be deemed to imply that this guarantee shall apply to any work which has been abused or neglected by the Owner.

Legal Name of Contractor

_____

By: _____

Title:

_____

_____
Notary Public

This _____ day of _____, 20____.

STATUTORY AFFIDAVIT

STATE OF GEORGIA, COUNTY OF _____

FROM: _____(Contractor)

TO: _____, Owner

RE: Contract entered into the _____ day of _____, 20____, between the above mentioned parties for the construction of a _____

_____

at _____

KNOW ALL MEN BY THESE PRESENT:

1. The undersigned hereby certifies that all work required under the above Contract has been performed in accordance with the terms thereof, that all material, men, subcontractors, mechanics, and laborers have been paid and satisfied in full and that there are no outstanding claims of any character arising out of the performance of the Contract which have not been paid and satisfied in full.

2. The undersigned further certifies that to the best of his knowledge and belief there are no unsatisfied claims for damages resulting from injury or death to any employees, subcontractors, or the public at large arising out of the performance of the Contract, or any suits or claims for any other damage of any kind, nature or description which might constitute a lien upon the property of the Owner.

3. The undersigned makes this affidavit as provided by law and for the purpose of receiving final payment in full settlement of all claims arising under or by virtue of the Contract, and acceptance of such payment is acknowledged as a release of the Owner from any and all claims under or by virtue of the Contract.

IN WITNESS WHEREOF, the undersigned has signed and sealed this instrument this _____ day of _____, 20____.

_____

_____

_____

Personally appeared before the undersigned, _____ and _____ who, after being duly sworn, depose(s) and say(s) that the facts stated in the above affidavit are true.

_____
Notary Public

This _____ day of _____, 20____.

My commission expires _____.
_____ County, Georgia.

Close-Out Documents Check-Off List Sheet 1 of 2

SPEC SECTION	GENERAL CONTRACTOR TO ADDRESS ITEMS THAT APPLY TO SCOPE OF WORK	ITEM SENT # copies	DATE SENT TO ARCH	COMMENTS
	GENERAL CONTRACTOR WARRANTY AND AFFIDAVITS			
01 7719	CONTRACTOR WARRANTY (Entire Project - 1yr)			
01 7719	CONTRACTORS STATUTORY AFFIDAVIT			
01 2976	CONTRACTORS AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS (AIA G706)			
01 2976	CONTRACTORS AFFIDAVIT OF RELEASE OF LIENS (AIA G706A)			
01 2976 01 7719	CONSENT OF SURETY TO FINAL PAYMENT (AIA G707)			
	GENERAL CONTRACTOR CERTIFICATES AND INSPECTIONS			
01 7719	BUILDING INSPECTION REPORTS/SIGN-OFF			
01 4113	Building Inspections			
01 7719	CERTIFICATE OF SUBSTANTIAL COMPLETION			
	GENERAL CONTRACTOR PAY APPLICATIONS AND PUNCH LISTS			
01 7719	FINAL PAY APPLICATION WITH CONDITIONAL FINAL LIEN WAIVER AND RELEASE			
01 7719	COMPLETED FINAL PUNCH LIST (COPY OF PUNCH LIST STATING EACH ITEM COMPLETED OR OTHERWISE RESOLVED)			
	SPECIAL WARRANTIES (PARTIAL LISTING)			
06 1000	ROUGH CARPENTRY Glass Mat Faced Gypsum Sheathing - standard limited five (5) year			
07 1100	MEMBRANE WATERPROOFING (5 YEAR MANUF.; 3 YEAR INSTALLER)			
07 1416	FLUID APPLIED WATERPROOFING 10 YEAR MATERIAL & WORKMANSHIP			
07 2726	AIR INFILTRATION BARRIER 5 YEAR			
07 4100	STANDING SEAM ROOF SYSTEM 20 year			
07 5423	THERMOPLASTIC-POLYOLEFIN (TPO) ROOFING 20 YEAR			
07 6310	GUTTERS & DOWNSPOUTS 2 YEARS			

Close-Out Documents Check-Off List
Sheet 2 of 2

SPEC SECTION	ITEM	ITEM SENT # copies	DATE SENT TO ARCH	COMMENTS
07 6200	FLASHING AND SHEET METAL			
07 6500	THROUGH-WALL FLASHING			
07 9200	SEALANTS AND CAULKING 20 YR MANUF; 2 YR INSTALLER			
10 8010	TOILET ACCESSORIES 15 YR ON MIRRORS			
01 7839	**RECORD "AS BUILT" DRAWINGS**			
	ARCHITECTURAL			
01 7719	**OPERATION AND MAINTENANCE DATA** 2 BOUND SETS REQUIRED AND IN PDF FORMAT			
01 7719	**INSTRUCTION OF OPERATING PERSONNEL** (WRITTEN CONFIRMATION OF OWNER INSTRUCTION)	-	-	
		-	-	

SECTION 01 7836
WARRANTIES AND COMPLETION CERTIFICATES

PART 1 GENERAL

1.01 DESCRIPTION

A. Categories of Specific Warranties: It is recognized that warranties on the work are in several categories, including those of the General Conditions, and including (but not necessarily limited to) the following specific categories related to the individual units of work specified in the section of Division 2 thru 33 of these Specifications.
   1. Special Project Warranty: (Guaranty): A warranty specifically written and signed by the General Contractor for a defined portion of the work; and where required, countersigned by the subcontractor, installer, manufacturer or other entity engaged by the Contractor; formerly generally recognized as (and sometimes specified in the Contract Documents as) a "guaranty".
   2. Specified Product Warranty: A warranty which is required by the Contract Documents, to be provided for a manufactured product which is incorporated into the work; regardless of whether the manufacturer has published the warranty without regard for specific incorporation of the product into the work, or has written and executed the warranty as a direct result of the Contract Document requirements.
   3. Coincidental Product Warranty: A warranty which is not specifically required by the Contract Documents (other than as specified in this Section); but which is available on a product incorporated into the work, by virtue of the fact that the manufacturer of the product has published the warranty in connection with purchases and uses of the product without regard for specific applications except as otherwise limited by the terms of the warranty.

B. Definition - Manufactured Product: A physical item for incorporation into the work, which has been produced from raw or natural materials by a manufacturing process, and which is purchased from a manufacturer either specifically for the work or the General Contractor's/Subcontractor's/ Fabricator's/Installer's stock from which it is drawn for incorporation into the work.

C. Explanation: This section specifies general requirements for special project warranties, specified product warranties, and coincidental product warranties. It is recognized that certain required "certifications" and other commitments and agreements for continuing services to the Owner, flowing out of the Contract, are similar to the requirements of this Section, and are specified elsewhere in the Contract Documents.

D. Refer to individual sections of Division 2 through 33 for the determination of units of work that are required to be specifically or individually warranted, and for the specific requirements and terms of those warranties (or guarantees).

E. Refer to the General Conditions for terms of the General Contractor's general warranties.

F. General Limitations: It is recognized that specific warranties are intended primarily to protect the Owner against failure of the work to perform as required, and against deficient, defective and faulty materials and workmanship, regardless of sources. Except as otherwise indicated specific warranties do not cover failures in the work which result from: 1. Unusual and abnormal phenomena of the elements, 2. The Owner's misuse, maltreatment or improper maintenance of the work, 3. Vandalism after the time of Substantial Completion, or 4. Insurrection or acts of aggression including war. Although the manufacturer's commitments in product warranties on products used in the work are generally written to exclude the substrate supporting the product, such limitations in product warranties do not relieve the General Contractor of the more general warranties on work which incorporates the use of such products. Except as otherwise indicated, this same relationship applies to units of work performed by other entities (other than manufacturers), such as fabricators, installers and subcontractors who are required to countersign special project warranties (and guaranties) with the General Contractor for such units of work.

G. Related Damages and Losses: In connection with General Contractor's correction of warranted work which has failed, remove and replace other work of the project which

has been damaged as a result of such failure, or must be removed and replaced to provide access for correction of such warranted work.

H. Replacement cost, Obligations: Upon determination within the warranty period that a unit of work covered by a special project warranty or a product covered by a specified product warranty has failed, proceed promptly to replace or restore the unit or product to acceptable condition complying with the requirements of the Contract Documents. Except as otherwise indicated, the cost of replacing or restoring such failing unit or product is the General Contractor's obligation, without regard for whether the Owner has already benefited from use of the failing unit or product through a portion of its anticipated useful service life.

I. Owner's Resources: Except as otherwise indicated, specific warranties do not diminish implied warranties, and shall not deprive the Owner of actions, rights, and remedies otherwise available to him for the General Contractor's failure to fulfill requirements of the Contract Documents, nor shall the periods of warranties be interpreted as limitations on the time in which the Owner can pursue such actions, rights or remedies.
   1. Rejection of Warranties: Owner reserves the right, at the time of Substantial Completion or thereafter, to reject coincidental product warranties submitted by the General Contractor, which in the opinion of the Owner, tend to detract from or confuse the interpretation of requirements of Contract Documents. Refer to instances of uncertainty to the Architect or Engineer prior to purchase of products, where coincidental product warranties may be in conflict with the requirements of the Contract Documents

J. General Contractor's Procurement Obligations: Do not purchase, subcontract for, or allow others to purchase or sub-subcontract for materials or units of work for the project where a special project warranty, specified product warranty, certification or similar commitment is required by the Specifications, without the provider being willing to sign such commitments. Refer seemingly irresolvable instances to the Architect for administrative or procedural consultation before proceeding.

1.02 QUALITY ASSURANCE - SPECIFIC WARRANTY FORMS

A. General: Where a special project warranty (guaranty) or specified product warranty is required, prepare a written document to contain the terms and appropriate identification, ready for execution by required parties. Submit draft to Owner (through Architect or Engineer) for approval prior to final execution.

B. Submit specific warranties along with requests for certification at Substantial Completion. Date(s) will be inserted to correspond with certification as established by the Architect and accepted by the Owner.

END OF SECTION

SECTION 01 7839
PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 DESCRIPTION

A. Throughout progress of the work of this Contract, maintain an accurate record of all changes in the Contract Documents. Upon completion of the work of this Contract, transfer the recorded changes from the Job Set Record Documents to a set of Final Record Documents.

1.02 QUALITY ASSURANCE

A. General: Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff as approved in advance by the Architect.
B. Accuracy of Records: Thoroughly coordinate all changes within the Record Documents, making adequate and proper entries on each page of specifications and each sheet of drawings and other documents where such entry is required to properly show the change. Accuracy of records shall be such that future search for items shown in the Contract Documents may reasonably rely on information obtained from the approved Final Record Documents.
C. Timing of Entries: Make all entries within 24 hours after receipt of information.

1.03 SUBMITTALS

A. General: The Architect's approval of the current status of Record Documents may be a prerequisite to the Architect's approval of requests for progress payment and request for final payment under the Contract.
B. Progress Submittals: Prior to submitting each request for progress payment, secure the Architect's approval of the Record Documents as currently maintained.
C. Final Submittal: Prior to submitting request for final payment, submit the final Record Documents to the Architect and secure his approval.

1.04 PRODUCT HANDLING

A. Use all means necessary to maintain the job set of Record Documents completely protected from loss and damage until completion of the work and transfer of the recorded data to the Final Record Documents.

PART 2 PRODUCTS

2.01 RECORD DOCUMENTS

A. Job Set Record Documents: Contract documents provided by the Contractor to be stored at the Project site in the project office.
B. Final Record Documents: Promptly, following award of Contract, secure from the Architect, at no charge to the Contractor, one complete set of all documents comprising the Contract for use in preparing the Final Record Documents.
C. Fire Marshal Stamped Set: This set shall be stored at the Project site in the Project Office, and shall be made available to the Fire Marshal having jurisdiction upon the Fire Marshal's request.

PART 3 EXECUTION

3.01 MAINTENANCE OF JOB SITE

A. Identify job set with title "RECORD DOCUMENTS - JOB SET".

3.02 PRESERVATION

A. Considering the Contract Completion Time, the probable number of occasions upon which the job set must be taken out for new entries and for examination and the conditions under which these activities will be performed, devise a suitable method for protection of the job set to the approval of the Architect.
B. Do not use the job set for any purpose except entry of new data and for review by the Architect, until start of transfer of data to final Record Documents.

C. Maintain the job set at the site where designated by the Architect.

3.03 ENTRIES

A. Making entries on drawings: Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by note and by graph lines, as required. Date all entries. Call attention to the entry by "cloud" around the area or areas affected. In the event of overlapping changes, different colors may be used for each of the changes.
B. Where changes are caused by directives issued by the Architect, clearly indicate the change by note in ink, colored pencil or rubber stamp.
C. Where changes are caused by Contractor originated proposals approved by the Architect, including inadvertent errors by the Contractor which have been accepted by the Architect, clearly indicate the change by note in erasable colored pencil.
D. Show on the job set of Record Drawings, by dimension accurate to within 1", the centerline of each item. Clearly identify the item by accurate note. Show, by symbol or note, the vertical location of the item, "in ceiling plenum"; "exposed"; "on roof"; etc. Make all identification sufficiently description that it may be related reliable to the specifications.
E. Accuracy of entries: Use all means necessary, including the proper tools for measurement, to determine actual locations of the installed items.
F. Make entries in the pertinent documents as approved by the Architect.

3.04 FINAL RECORD DOCUMENTS

A. General: The purpose of the Final Record Documents is to provide factual information regarding all aspects of the work, both concealed and visible, to enable future modification of design to proceed without lengthy and expensive site measurement, investigation and examination.
B. Review and Approval: Submit the completed total set of Record Documents to the Architect. Participate in review meeting or meetings as required by the Architect. Make all required changes in the Record Documents, and promptly deliver the Final Record Documents to the Architect. Note: If record set kept on the job site is clean and legible in the opinion of the Architect, it may be submitted for the permanent record Final Record Documents. If not, all data on the soiled set shall be transferred to the clean Final Record Documents.

END OF SECTION

SECTION 02 2500
SHORING & UNDERPINNING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: Shoring and underpinning, including:

1. Foundation piles for new buildings.
2. Remedial screw piles for foundation repair.
3. Foundation stabilization.
4. Retaining walls.
5. Tieback systems.

1.02 REFERENCES

A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

B. ASTM International:

1. ASTM A29/A29M Standard Specification for Steel Bars, Carbon and Alloy, Hot-Wrought and Cold-Finished, General Requirements for.
2. ASTM A36/A36M Standard Specification for Carbon Structural Steel.
3. ASTM A53 Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
4. ASTM A153 Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
5. ASTM A193/A193M Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service.
6. ASTM A252 Standard Specification for Welded and Seamless Steel Pipe Piles.
7. ASTM A320/A320M Standard Specification for Alloy/Steel Bolting Materials for Low-Temperature Service.
8. ASTM A500 Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
9. ASTM A572 Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel.
10. ASTM A618 Standard Specification for Hot-Formed Welded and Seamless High-Strength Low-Alloy Structural Tubing.
11. ASTM A656 Standard Specification for Hot-Rolled Structural Steel, High-Strength Low-Alloy Plate with Improved Formability.
12. ASTM A1018 Standard Specification for Steel, Sheet and Strip, Heavy Thickness Coils, Hot Rolled, Carbon, Structural, High-Strength Low-Alloy, Columbium or Vanadium, and High-Strength Low-Alloy with Improved Formability.

C. Society of Automotive Engineers (SAE):

1. SAE J429 Mechanical and Material Requirements for Externally Threaded Fasteners.

1.03 DEFINITIONS

A. Screw Anchor: The AB Chance HELICAL PIER Foundation Systems consist of steel screw anchors with 1 or more true-helix shaped steel plates attached to a central steel shaft. Extend anchors by adding shaft extensions.

1.04 SYSTEM DESCRIPTION

A. Design Requirements: Design screw anchor application by a certified AB Chance dealer or designer, or a Professional Structural Engineer experienced in design of this work and licensed in Florida.

1.05 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit product data, including manufacturer's SPEC-DATA™ product sheet, for specified products.

C. Shop Drawings: Submit shop drawings showing profiles and product components, including anchorage and accessories.

D. Quality Assurance Submittals: Submit the following:

1. Manufacturer's Instructions: Manufacturer's installation instructions.

E. Closeout Submittals: Submit the following:

1. Warranty: Warranty documents specified herein.

2. Record Documents: Project record documents for installed materials in accordance with Division 1 Closeout Submittals (Project Record Documents) Section.

   a. Accurately Record the Following: Type (number and size of helices) and size; actual locations of screw anchors, anchor diameter and anchor length, installation angle below horizontal; extension length along shaft and datum; anchor testing (if required); torque installation records on all screw anchors and torque monitoring calibration data.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

B. Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.

1.07 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Document.

PART 2 PRODUCTS

2.01 SHORING & UNDERPINNING

A. Basis of Design Manufacturer: AB Chance Company, a subsidiary of Hubbell Power Systems, an ISO 9001 company.

1. Contact: 210 North Allen St., Centralia, MO 65240; Telephone: (573) 682-8414; Fax: (573) 682-8660; E-mail: hpscontact@hps.hubbell.com; Web site: www.abchance.com.

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: No substitutions permitted.

2.03 MANUFACTURED COMPONENTS

Specifier Note: The following paragraphs specify materials used to manufacture components that are supplied by the manufacturer. Size and strength rating are determined by the application. Edit accordingly.

A. Components:

1. Screw Anchor Plate:

   a. 5,500 ft-lb (760 kg/m) Anchors: Low-carbon steel meeting the general requirements of AISI, or ASTM A572, ASTM A1018 or ASTM A656.

   b. 7,000 and 10,000 ft-lb (968 and 1383 kg/m) Anchors: Hot rolled steel per ASTM A656 or ASTM A1018.

   c. 11,000 ft/lb (1521 kg/m) Anchors: Low-carbon steel meeting the general requirements of AISI, or ASTM A36, ASTM A572, ASTM A656 or ASTM A1018.

   d. 15,000 ft/lb (2074 kg/m) Anchors: Hot rolled steel per ASTM A656 or ASTM A1018.

2. Screw Anchor Shaft:

   a. 5,500 ft-lb (760 kg/m) Anchors: Medium-carbon round-cornered square steel bar meeting dimensional and workmanship requirements of ASTM A29.

   b. 7,000, 10,000 and 15,000 ft/lb (968, 1383 and 2074 kg/m) Anchors: High strength, low-alloy round-cornered square steel bar meeting dimensional and workmanship requirements of ASTM A29.

   c. 11,000 ft/lb (1521 kg/m) Anchors: 3 1/2 inches and 8 5/8 inches (89 and 219 mm) OD steel tube or pipe, seamless or straight welded, ASTM A53, ASTM A252, ASTM A500 or ASTM A618.

3. Bolts:

   a. 5,500 and 7000 ft-lb (760 and 968 kg/m) Anchors - Bolts: ASTM A320, Grade L7.

   b. 10,000 ft/lb (1383 kg/m) Anchors - Bolts: ASTM A193, Grade B7.

   c. 11,000 ft/lb (1521 kg/m) Anchors - Bolts: SAE J429, Grade 5.

   d. 15,000 ft/lb (2074 kg/m) Anchors - Bolts: ASTM A193, Grade B7.

4. Steel Bracket:

   a. Lifting Bolts: SAE J429, Grade 5.

   b. Cross Bolts: SAE J429, Grade 5.

5. Steel Bracket:
    a. Bracket Body: Hot rolled steel, ASTM A36, ASTM A635 or ASTM A1018.
    b. Pipe Assembly: Steel tubing, ASTM A500.

2.04 SOURCE QUALITY

A. Source Quality: Obtain proprietary shoring and underpinning products from a single manufacturer.

B. Tests, Inspections: [Specify tests, inspections and other source quality requirements.].

C. Verification of Performance: [Specify applicable performance verification requirements.].

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with manufacturer's product data, including product technical bulletins.

3.02 PREPARATION

A. Preparation:
    1. Use placement method that will not cause damage to nearby structures.
    2. Prepare to place piles from existing site elevations.

3.03 INSTALLATION

A. HELICAL PIER Installation: Installation by certified installer.
    1. Provide installation torque units, rotary type, forward and reverse capability, electric or hydraulic powered. Capable of positioning the screw anchor at the designed angle. Minimum drive equipment rating to equal or exceed the maximum torque rating of the specified screw anchor. Provide torque monitoring device as part of the installing unit or as a separate in-line device. Make available calibration torque monitoring data for Architect, Inspector or Owner.
    2. Position screw anchor as indicated. Establish proper angular alignment at the start of installation.
    3. Connect the installation unit to the anchor with manufacturer's approved adapters. Provide safe and secure connection to screw anchors and extensions. Apply sufficient downward pressure to advance anchor. Install in a smooth and continuous manner, rate of anchor rotation 5 - 20 rpm.
    4. Monitor torque applied by the installing unit during the entire installation, and record values achieved on each screw anchor. Remove encountered obstructions, or relocate screw anchor and adjacent anchors as required.
    5. Provide extension material to obtain indicated depth, couple with bolts provided as part of extension; torque to 40 ft/lb (5.5 kg/m). Install to minimum depth indicated. Provide ground cover, 5 feet (1.5 m) minimum, above the top helix. Obtain written permission from Architect/Engineer before proceeding if indicated depth or minimum torque cannot be obtained.
    6. Connect screw anchor to the structure; use manufacturer approved steel bracket or approved reinforced steel concrete haunch.

B. Depth and Torque Tolerances: Screw anchors that reach maximum torque rating before reaching minimum indicated depth shall be subject to the following:
    1. Terminate at depth obtained with approval of Architect/Engineer.
    2. Replace screw anchor with smaller and/or fewer helices, installed 3 feet (0.9 m) minimum beyond termination of original screw anchor.

3.04 FIELD QUALITY REQUIREMENTS

A. Site Tests: Monitor torque applied by the installing units during the entire installation.

B. Inspection: Field inspection and testing when required will be performed under provisions of Division 1 Testing Requirements.

3.05 PROTECTION

A. Protection: Protect installed product from damage during construction.

END OF SECTION

SECTION 06 0523
FASTENERS AND SUPPORTS

PART 1 GENERAL

1.01 DESCRIPTION

A. Furnish labor, equipment, materials, and services to provide all nails, screws, bolts, lag screws and similar fittings indicated or required for the proper completion of the Work.
B. All fasteners and supports described on the Drawings and not necessarily named therein, shall be provided as shown and are subject to applicable requirements of this Section.

1.02 REFERENCES

A. The following references are made a part of this Specification to the extent referenced herein:
B. American National Standards Institute:
   1. ANSI/TPI 1, National Design Standard for Metal-Plate-Connected Wood Truss Construction.
C. American Society for Testing and Materials:
   1. ASTM A123/A123M-13 Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
   2. ASTM A153/A153M-09 Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
   3. ASTM A307-12 Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60,000 PSI Tensile Strength.
   4. ASTM B117-11 Standard Practice for Operating Salt Spray (Fog) Apparatus.
   5. ASTM F593-13a Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs.
   6. ASTM F1667-13 Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.
D. IBC, International Building Code, latest adopted edition.
E. Society of Automotive Engineers:
   1. SAE J78 Steel Self-drilling Tapping Screws.
   2. SAE J429 Mechanical and Material Requirements for Externally Threaded Fasteners.
F. Truss Plate Institute
   1. TPI HIB-91, Commentary and Recommendations for Handling Installing & Bracing Metal Plate Connected Wood Trusses.

1.03 SUBMITTALS

A. Product Literature: Manufacturer's product literature indicating product descriptions and installation procedures for the following:
   1. Wood construction connectors.
   2. Self-drilling and self-tapping screws.
   3. Mastics.

1.04 QUALITY ASSURANCE

A. Materials, standards and product identification numbers of the Simpson Strong-Tie Company, Inc. are used herein for reference and standard of quality. Other manufacturers shall submit cross-reference information in order to effect a comparison between their product numbers and those listed.
B. Comply with applicable requirements and recommendations of the following publications:
   1. IBC
   2. ANSI/TPI 1
   3. TPI HIB

PART 2 PRODUCTS

2.01 FASTENERS AND SUPPORTS

A. General: Unless otherwise indicated, provide Type 304 stainless steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.
   1. Provide stainless steel fasteners for fastening aluminum, stainless steel or nickel silver.
   2. Provide bronze fasteners for fastening bronze.

B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A307, Grade A (ASTM F568M, Property Class 4.6); with hex nuts, ASTM A563 (ASTM A563M); and, where indicated, flat washers. All bolts and nuts on wood shall have standard washers.

C. High-Strength Bolts, Nuts, and Washers: ASTM F3125/F3125M, Grade A325 (Grade A325M), Type 3, heavy-hex steel structural bolts; ASTM A563, Grade DH3, (ASTM A563M, Class 10S3) heavy-hex carbon-steel nuts; and where indicated, flat washers.

D. Stainless Steel Bolts and Nuts: Regular hexagon-head annealed stainless steel bolts, ASTM F593 (ASTM F738M); with hex nuts, ASTM F594 (ASTM F836M); and, where indicated, flat washers; Alloy Group 1 (A1) for Type 304 and Group 2 (A4) for Type 316L.

E. Anchor Bolts: ASTM F1554, Grade 36, of dimensions indicated; with nuts, ASTM A563 (ASTM A563M); and, where indicated, flat washers. Anchor bolts not otherwise shown shall be 8" long with 2" bend end, 1/2" in diameter.

F. Lag Bolts and Screws shall be hot-dipped galvanized conforming to ASTM A653, G90 coating. Lag bolts and screws securing metal panels to substrates for weatherproof installations shall have ethylene propylene diene monomer (EPDM) washers.

G. Anchors, fasteners, plugs and shields shall be selected for Allowable Stress Design (ASD) and permanence when installed in the indicated materials.
   1. Wedge expansion anchors for anchoring into the top of concrete-filled steel deck and underside of concrete shall be IBC code-compliant qualified for seismic loads in cracked and uncracked concrete.
   2. Cast-in-Place Anchors in Concrete: Either threaded or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A47/A47M malleable iron or ASTM A27/A27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F2329/F2329M.

H. Nails and Spikes and Staples:
   1. Conform to ASTM 1667.
   2. For engineered and structural construction, provide steel nails with the following minimum average bending yield strengths:
      a) From steel wire of nominal 0.135 inch (3.4 mm) diameter or less: 100 ksi (689 MPa).
      b) From steel wire of greater than nominal 0.135 inch (3.4 mm): 90 ksi (620 MPa).
   3. Nails used for post-frame construction shall be ring-shank in addition to meeting yield strengths above.
   4. Nails for wood underlayments shall be minimum 12 gauge ring-shank type.

I. Self-drilling and Self-tapping Screws:
   1. Comply with SAE J78, except shanks and heads shall comply with SAE J429, Grade 5 with 827 MPa (120 ksi) tensile strength and Rockwell C34 maximum hardness.
   2. For exterior wall construction in the below-listed environments, provide screws with shanks and heads made of Series 300 (18-8) stainless steel per ASTM F593, Condition CW (cold-worked), 689 to 1034 MPa (100 to 150 ksi) tensile strength, Rockwell B95 to C32 hardness.
      a) Above 150 feet above average grade.
      b) Within two miles of coast-line.
   3. Fastener heads shall be embossed with manufacturer's mark for inspection purposes and indicating fasteners comply with specifications.
   4. Carbon steel fasteners shall have corrosion-resistant, hexavalent chrome-free coating with a zinc-rich basecoat and an aluminum-pigmented organic topcoat.

Fastener shall withstand 800 hours without forming red rust when tested according to ASTM B117.

5. Series 300 stainless steel fasteners shall be embossed with the manufacturer's mark for inspection purposes and indicating fasteners comply with specifications and applicable standards. Fasteners shall have a galvanically compatible finish and coating, hexavalent chrome-free, zinc plate base and aluminum-pigmented organic topcoat.

J. Screws used for securing PVC and FRP products to substrates shall have ethylene propylene diene monomer (EPDM) washers and self drilling expansion hole pilot shank.

K. Mastics shall meet the requirements of the American Plywood Association Specification AFC-01 and be phenol resorcinol type when used on pressure treated wood products.

L. Plywood Clips for unsupported edges of plywood decking panels shall be 18 gauge galvanized 'H' clips.
   1. Acceptable manufacturers
      a) Teco Products and Testing Corp. (Cottage Grove, WI) (www.tecotested.com).
      b) USP Structural Connectors/ MiTek (Burnsville, MN) (www.uspconnectors.com).
      c) Tamlyn (Stafford, TX) (www.tamlyn.com).

M. All tamper-proof screws and fasteners shall be "socket top" design.

N. Treated Wood Fasteners:
   1. Fasteners for fire retardant treated wood shall be primed with corrosion inhibitive paint.
   2. Fasteners for pressure or chemically treated wood shall be hot-dipped galvanized to minimum G90 coating in conformance with ASTM A123 or A153. Provide Type 304 or 316 stainless steel fasteners within 1 mile (1.61 km) of shorelines, and when using Copper Quat (ACQ) or Copper Oxide (CA) treated wood.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install fasteners and supports as indicated on the drawings and as per manufacturer's written instructions.

B. Selection of size and type nails shall be in accordance with IBC 2012, Table 2304.9.1 "Fastening Schedule". Fasteners for exterior use shall be aluminum or galvanized steel casing nails.

C. Power driven devices may be used to anchor to concrete or steel or aluminum. For self-drilling and self-tapping screws, use maximum 2500 rpm device.

D. For face-mounted hangers and straight straps, use 0.86 of the manufacturer's table loads for Spruce, Pine or Fir.

E. Install all specified or manufacturer recommended fasteners before loading connections.

END OF SECTION

SECTION 06 1000
ROUGH CARPENTRY

PART 1 GENERAL

1.01 DESCRIPTION

A. Furnish labor, equipment, material and services for the complete erection and installation of all items of rough carpentry as specified in this Section in locations shown or scheduled on Drawings and as required for proper installation of work by other trades.

1.02 REFERENCES

A. American Plywood Association – The Engineered Wood Association:
   1. APA PRI-400, Performance Standard for APA Engineered Wood System I-Joists.

B. American Society for Testing and Materials:
   1. ASTM C473-12 Standard Test Methods for Physical Testing of Gypsum Panel Products.
   2. ASTM C1177/C1177M-13 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
   3. ASTM C1278/C1278M-07a(2011) Standard Specification for Fiber-Reinforced Gypsum Panel.
   4. ASTM C1289-14 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
   5. ASTM C1396/C1396M-14 Standard Specification for Gypsum Board.

C. American Wood Protection Association
   1. AWPA Standard U1.
   2. AWPA E1-06 Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.

D. National Fire Protection Association:
   1. NFPA 703 – Standard for Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials, 1995 Edition.

E. United States Department of Commerce:
   1. PS 2-04 – Performance Standard for Wood Based Structural Use Panels.

1.03 SUBMITTALS

A. Performance Rated I-Joists
   1. Product Data: Provide four sets of descriptive literature indicating material composition, thicknesses, dimensions, loading and fabrication details.
   2. Shop Drawings: Provide four sets of drawings indicating all framing layouts, locations and details of bearing, blocking, bridging, and cutting and drilling of webs.

1.04 QUALITY ASSURANCE

A. Carpentry work shall be done by skilled personnel and shall be installed plumb and true to line.

B. Grade mark each stock unit of lumber and plywood in accord with the association, certified by the Board of Review of The American Lumber Standards Committee, under whose grading rules it is produced and in accord with Department of Commerce Simplified Practice Recommendation R-16.

C. Moisture Content: Maintain moisture content of lumber with the requirements of the association under whose grading rules it is produced; 12% maximum for interior lumber and 19% for exterior lumber.

D. Preservative treated lumber shall meet current specified standards of the American Wood Protection Association (AWPA).

1.05 JOB CONDITIONS

A. Immediately upon delivery to the job site, store and handle lumber and other materials specified herein in a manner to prevent damage and protect from the weather.

B. Store materials a minimum of 12" above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation and ventilation.

C. Do not store seasoned materials in wet or damp locations.
D. Protect sheet materials from corners breaking and damaging surfaces.
E. Coordinate work of this section with that of all other trades.
F. The work shall include all carpentry, both temporary and permanent as shown on the drawings.
G. Provide cutting and carpenter assistance required for other trades.
H. Return Air Plenums: All exposed wood framing, wood or wood products used for framing, blocking or incidental construction within return air plenums shall be fire retardant treated per Specifications.

PART 2 PRODUCTS

2.01 LUMBER, GENERAL

A. Comply with DOC PS 20 and with grading rules of lumber grading agencies certified by ALSC's Board of Review as applicable. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by ALSC's Board of Review.
   1. Factory mark each item with grade stamp of grading agency.
   2. For items that are exposed to view in the completed Work, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.

2.02 FRAMING LUMBER

A. All framing lumber shall be kiln dried so that its moisture content conforms to the requirements of the association under whose grading rules it is produced but in no case greater than 19%.
B. Framing lumber shall be surfaced four sides.
C. Wood framing materials including studs, joists, headers, rafters, plates, bridging, beams, blocking, stringers, and misc. nailers shall be one of the following:
   1. No. 2 dense Southern Yellow Pine, bending stress grade minimum: 1200 psi.
   2. No. 2 dense Douglas Fir, bending stress grade minimum: 1200 psi.

2.03 PLYWOOD CONSTRUCTION PANELS

A. Factory mark each construction panel with APA trademark evidencing compliance with grade requirements.
B. Where construction panels will be used for the following concealed types of applications, provide APA Performance Rated Panels complying with requirements indicated for grade designation, span rating, exposure durability classification, edge detail (where applicable) and thickness.
C. Plywood Sheathing
   1. Grade Designation: APA rated sheathing, Structural 1.
   2. Exposure durability classification: Exposure 1.
   3. Edge Detail: Square edge.
   4. Thickness: 5/8 inch.
D. Plywood Roof Decking
   1. Grade designation: APA rated sheathing.
   2. Span rating: As required to suit rafter spacing indicated.
   3. Exposure durability classification: Exposure 1.
   4. Edge detail: tongue and groove.
   5. Thickness: 3/4" unless otherwise indicated.
E. Plywood Underlayment
   1. Grade designation: APA Underlayment Interior with exterior glue.
   2. Edge detail: Tongue and groove.
   3. Thickness: 3/4"

2.04 WOOD TREATMENT – PRESERVATIVE

A. Acceptable Manufacturers – Copper Oxide Base
   1. Hoover Treated Wood Products, Inc. (Thomson, GA) (www.frtw.com).
   2. Chemical Specialties, Inc. (Denver, CO) (www.chemicalspec.com).

3. Koppers Performance Chemicals (Pittsburg, PA) (www.koppersperformancechemicals.com)

B. Acceptable Manufacturers – Copper Quat Base (ACQ-D with added antimicrobials)
1. Chemical Specialties, Inc. (Denver, CO) (www.chemicalspec.com).
2. Dattashri Enterprises (Shivne, Pune, India) (www.dattashri.net)
3. Ashi Inc. (New Delhi, India) (www.radocarb.com)

C. Acceptable Manufacturers – Micronized Copper Azole (MCA)
1. Koppers Performance Chemicals (Pittsburg, PA) (www.koppersperformancechemicals.com)
2. YellaWood (Abbeville, AL) (www.yellawood.com)
3. Universal Forest Products (Grand Rapids, MI) (www.ufpi.com)

D. Provide preservative treated lumber complying with applicable requirements of AWPA U1 Standards using water-borne preservatives. Do not use chemicals containing chromium or arsenic.

E. End Use Classifications
1. General Use – Above Ground: Pressure treat aboveground items with waterborne preservatives to a minimum retention of 0.25 lb/cu. ft. (4.0 kg/cu. m) (0.060 pcf CA-C).
2. Ground Contact and Fresh Water Contact: Pressure treat wood members in contact with ground or freshwater with waterborne preservatives to a minimum retention of 0.40 lb/cu. ft. (6.4 kg/cu. m) (0.31 pcf CA-C).
3. Ground Contact – Critical Structural Members:

F. For interior use, after treatment, kiln dry treated lumber to a maximum moisture content of 19%.

G. Treat items noted on drawings and the following:
1. Material in contact with concrete or exterior masonry.
2. Framing, blocking, nailers, curbs and incidental material in connection with roofing and flashing.
3. Exterior fascia blocking.
4. Exterior parapet framing and roof and equipment curbs.

H. All cut surfaces, bolt holes and machined areas shall be liberally brushed with a preservative complying with AWPA M4 and which is registered by EPA as a pesticide. Materials to be painted shall have knots and pitch streaks sealed as with untreated wood.

2.05 WOOD TREATMENT – FIRE RETARDANT

A. General
1. All lumber must be kiln dried to maximum moisture content of 19 percent after treatment, and all plywood to maximum 15 percent after treatment.
2. Framing materials to be fire-retardant treated shall include those noted on drawings, all miscellaneous blocking within rated partitions, all miscellaneous blocking or incidental construction within return air plenums, and the following:
   a) All plywood roof decking.
   b) All plywood exterior sheathing.

B. Interior Wood
1. Acceptable Manufacturers: Subject to compliance with requirements of these Specifications, provide products from one of the following:
   a) Hoover Treated Wood Products, Inc. (Thomson, GA) (www.frtw.com).
   b) Hickson Corp. (Conley, GA).
   c) Viance LLC (Charlotte, NC) (www.treatedwood.com); D-Blaze.
   d) Arch Wood Protection, Inc. - a Lonza Company (Atlanta, GA) (www.frameguardwood.com).
2. Where scheduled or indicated, provide fire-retardant treated wood, unincised, pressure impregnated with fire-retardant chemicals. Treated wood shall comply with the requirements in AWPA C20 for lumber and AWPA C27 for plywood, and with the standards set forth in NFPA 703.
3. Each piece of material shall bear the following markings: Underwriters Laboratory for Class A/Class 1, Interior Type B, kiln-dried after treatment (KDAT). Comply with

ASTM E84 for flamespread and smoke developed ratings of 25 or less, with no sign of progressive combustion when test is extended to 30 minutes.

a) Provide Interior Type A in localities where the annual average morning relative humidity exceeds 87% according to the National Climatic Data Center statistics.

C. Exterior Wood

1. Acceptable Manufacturers: Subject to compliance with requirements of these Specifications, provide products from one of the following:
   a) Arch Wood Protection, Inc. - a Lonza Company (Atlanta, GA) (www.frameguardwood.com).
   b) CHEMCO, Inc. (Ferndale, WA) (www.chemco.org).
   c) Hoover Treated Wood Products, Inc. (Thomson, GA) (www.frtw.com).
   d) Chicago Flameproof (Montgomery, IL) (www.chicagoflameproof.com)
   e) Exterior Wood, Inc. (Washougal, WA) (www.exteriorwood.com)
2. Material: Where schedule or indicated, provide fire-retardant treated exterior lumber and plywood that has been tested in accordance with ASTM E84 and re-tested in accordance with ASTM D2898, Method A or B. Fire-retardant treatment shall be free of halogens, sulfates, chlorides and ammonium phosphate.
3. Each piece of material shall bear the appropriate qualified inspection agency's label indicating Class A/Class 1 (flame spread of 25 or less per ASTM E84), kiln-dried after treatment (KDAT).

2.06 FASTENING DEVICES

A. Mechanical Fastening Devices are as specified in Section 06 0500, "Fasteners and Supports", and as indicated in PART 3 below.

B. Adhesives:

1. High Performance: Gun grade cross-linking polymer, minimum 1500 psi block strength, solvent free, freeze/thaw stable, meeting APA AFG-01.
2. General Purpose: Gun grade synthetic elastomeric polymer, minimum 520 psi block strength, polystyrene and polyurethane foam compatible, water resistant, freeze/thaw stable.
3. Subfloor: Gun grade synthetic elastomeric polymer and resins, minimum 1000 psi block strength, resilient, water resistant, freeze/thaw stable, meeting APA AFG-01.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Closely fit, accurately set and rigidly secure carpentry to proper plane and alignment, free of warp or wind. Anchor by bolting, nailing or with power driven anchors to concrete or steel.

B. Nailing: For fastening of wood framing members and associated building materials, install size and quantity of nails as prescribed in Sections 2303 and 2304 of 2012 International Building Code and Table R602, 3, (i) "Fastener Schedule for Structural Members", 2006 International Residential Code.

C. Wood furring shall be provided where and as necessary to obtain the required lines, contours, or levels in the finished surfaces, and where shown for use in connection with other work.

D. Install grounds for proper fastening, grounds for finish carpentry and grounds for other trades as required.

E. Fastenings of wood grounds, furring, etc., to masonry or concrete shall be of metal and of the type and spacing best suited to conditions. Hardened steel nails, expansion screws, toggle bolts, self-clinching nails, metal plugs, inserts or similar fastenings shall be used.

F. Wood blocking, framing, plates, etc. shall be set to line within 1/8" in 10' for finished surfaces. Anchor securely by bolting, nailing or with power driven anchors to concrete or steel.

G. Provide specified air barrier, over all plywood wall sheathing at all locations.

H. Fire retardant treated lumber and plywood used in structural applications shall be applied according to strength tables provided by the treating facility. Do not rip or mill

exterior fire retardant treated lumber. End cuts, drilling holes and joining cuts are permitted. Plywood may be cut in any direction.

3.02 PLYWOOD SHEATHING AND ROOF DECKING

A. Install plywood panels with face grain perpendicular to supports with end joints staggered.
B. Allow 1/16" joint between panels along edge and at end.
C. Nail at 6" intervals along supported edges and at 12" intervals in the field. Use plyclips along unsupported edge if support spacing exceeds 16".
D. Utilize 6d common nails for 1/2" thick plywood, 8d for greater thickness.
E. Screw attach panels to metal framing utilizing 1" Type S oval head screws placed at 6" intervals along edges and 12" in the field.
F. Provide 3/4" tongue and groove C-D veneer exterior grade plywood at sloped dormer or pent roof deck installations.

END OF SECTION