SPECIFICATIONS
FOR

New Concrete Walk & Bridge
Juvenile Justice Center
Tom Green County

SAN ANGELO, TEXAS

ARCHITECT OF RECORD
37B WEST CONCHO
SAN ANGELO, TX 76903
(325) 653-2900

SKG Engineering, Inc.
CIVIL CONSULTANT
(325) 655-1288

100% Final CD's Set Issued
for Bidding & Construction
09-28-2023

Project Manual

PROJECT NO. 342-12-0723

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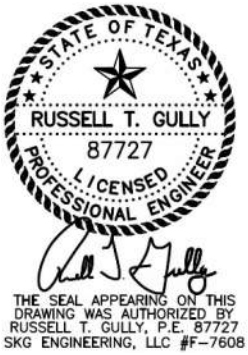
09/28/2022



SECTION 00 2116

GENERAL CONDITIONS FOR BIDDING

1. For General Conditions for Bidding – Refer to County's RFP No. – to be issued in an Addendum.

Request for Proposal

Renovations of New Concrete Walk and Bridge Juvenile Justice Center Tom Green County

1. For Request for Proposal – Refer to County's RFP No. – to be issued in an Addendum.

PROPOSAL FOR LUMP SUM CONTRACT

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A. For Supplementary Conditions – Refer to County's RFP No. – will be issued in an Addendum.

SECTION 00 7343
PREVIALING WAGE RATE

1. For PREVAILING WAGE RATES – Refer to County's RFP No. – will be issued in an Addendum.

AIA® Document A105® – 2017

Standard Short Form of Agreement Between Owner and Contractor

AGREEMENT made as of the _____ day of _____ in the year _____
(In words, indicate day, month and year.)

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

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

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

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

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

The Owner and Contractor agree as follows.

TABLE OF ARTICLES

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contractor shall complete the Work described in the Contract Documents for the Project. The Contract Documents consist of

.1 this Agreement signed by the Owner and Contractor;

.2 the drawings and specifications prepared by the Architect, dated , and enumerated as follows:

Drawings:

Number	Title	Date

Specifications:

Section	Title	Pages

.3 addenda prepared by the Architect as follows:

Number	Date	Pages

.4 written orders for changes in the Work, pursuant to Article 10, issued after execution of this Agreement; and

.5 other documents, if any, identified as follows:

ARTICLE 2 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 2.1 The Contract Time is the number of calendar days available to the Contractor to substantially complete the Work.

§ 2.2 Date of Commencement:

Unless otherwise set forth below, the date of commencement shall be the date of this Agreement.
(Insert the date of commencement if other than the date of this Agreement.)

§ 2.3 Substantial Completion:

Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion, as defined in Section 12.5, of the entire Work:
(Check the appropriate box and complete the necessary information.)

☐ Not later than ( ) calendar days from the date of commencement.

☐ By the following date:

ARTICLE 3 CONTRACT SUM

§ 3.1 The Contract Sum shall include all items and services necessary for the proper execution and completion of the Work. Subject to additions and deductions in accordance with Article 10, the Contract Sum is: ($)

§ 3.2 For purposes of payment, the Contract Sum includes the following values related to portions of the Work:
(Itemize the Contract Sum among the major portions of the Work.)

Portion of the Work	Value

§ 3.3 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and hereby accepted by the Owner:
(Identify the accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 3.4 Allowances, if any, included in the Contract Sum are as follows:
(Identify each allowance.)

Item	Price

§ 3.5 Unit prices, if any, are as follows:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)

ARTICLE 4 PAYMENTS

§ 4.1 Based on Contractor's Applications for Payment certified by the Architect, the Owner shall pay the Contractor, in accordance with Article 12, as follows:
(Insert below timing for payments and provisions for withholding retainage, if any.)

§ 4.2 Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate below, or in the absence thereof, at the legal rate prevailing at the place of the Project.
(Insert rate of interest agreed upon, if any.)

%

ARTICLE 5 INSURANCE

§ 5.1 The Contractor shall maintain the following types and limits of insurance until the expiration of the period for correction of Work as set forth in Section 14.2, subject to the terms and conditions set forth in this Section 5.1:

§ 5.1.1 Commercial General Liability insurance for the Project, written on an occurrence form, with policy limits of not less than ($) each occurrence, ($) general aggregate, and ($) aggregate for products-completed operations hazard.

§ 5.1.2 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than ($) per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance, and use of those motor vehicles along with any other statutorily required automobile coverage.

§ 5.1.3 The Contractor may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided that such primary and excess or umbrella insurance policies result in the same or greater coverage as those required under Section 5.1.1 and 5.1.2, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ 5.1.4 Workers' Compensation at statutory limits.

§ 5.1.5 Employers' Liability with policy limits not less than ($) each accident, ($) each employee, and ($) policy limit.

§ 5.1.6 The Contractor shall provide builder's risk insurance to cover the total value of the entire Project on a replacement cost basis.

§ 5.1.7 Other Insurance Provided by the Contractor
(List below any other insurance coverage to be provided by the Contractor and any applicable limits.)

Coverage	Limits

§ 5.2 The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance and shall provide property insurance to cover the value of the Owner's property. The Contractor is entitled to receive an increase in the Contract Sum equal to the insurance proceeds related to a loss for damage to the Work covered by the Owner's property insurance.

§ 5.3 The Contractor shall obtain an endorsement to its Commercial General Liability insurance policy to provide coverage for the Contractor's obligations under Section 8.12.

§ 5.4 Prior to commencement of the Work, each party shall provide certificates of insurance showing their respective coverages.

§ 5.5 Unless specifically precluded by the Owner's property insurance policy, the Owner and Contractor waive all rights against (1) each other and any of their subcontractors, suppliers, agents, and employees, each of the other; and (2) the Architect, Architect's consultants, and any of their agents and employees, for damages caused by fire or other causes of loss to the extent those losses are covered by property insurance or other insurance applicable to the Project, except such rights as they have to the proceeds of such insurance.

ARTICLE 6 GENERAL PROVISIONS

§ 6.1 The Contract

The Contract represents the entire and integrated agreement between the parties and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a written modification in accordance with Article 10.

§ 6.2 The Work

The term "Work" means the construction and services required by the Contract Documents, and includes all other labor, materials, equipment, and services provided, or to be provided, by the Contractor to fulfill the Contractor's obligations.

§ 6.3 Intent

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all.

§ 6.4 Ownership and Use of Architect's Drawings, Specifications and Other Documents

Documents prepared by the Architect are instruments of the Architect's service for use solely with respect to this Project. The Architect shall retain all common law, statutory, and other reserved rights, including the copyright. The Contractor, subcontractors, sub-subcontractors, and suppliers are authorized to use and reproduce the instruments of service solely and exclusively for execution of the Work. The instruments of service may not be used for other Projects or for additions to this Project outside the scope of the Work without the specific written consent of the Architect.

§ 6.5 Electronic Notice

Written notice under this Agreement may be given by one party to the other by email as set forth below.
(Insert requirements for delivering written notice by email such as name, title, and email address of the recipient, and whether and how the system will be required to generate a read receipt for the transmission.)

ARTICLE 7 OWNER

§ 7.1 Information and Services Required of the Owner

§ 7.1.1 If requested by the Contractor, the Owner shall furnish all necessary surveys and a legal description of the site.

§ 7.1.2 Except for permits and fees under Section 8.7.1 that are the responsibility of the Contractor, the Owner shall obtain and pay for other necessary approvals, easements, assessments, and charges.

§ 7.1.3 Prior to commencement of the Work, at the written request of the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence.

§ 7.2 Owner's Right to Stop the Work

If the Contractor fails to correct Work which is not in accordance with the Contract Documents, the Owner may direct the Contractor in writing to stop the Work until the correction is made.

§ 7.3 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies, correct such deficiencies. In such case, the Architect may withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the cost of correction, provided the actions of the Owner and amounts charged to the Contractor were approved by the Architect.

§ 7.4 Owner's Right to Perform Construction and to Award Separate Contracts

§ 7.4.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project.

§ 7.4.2 The Contractor shall coordinate and cooperate with the Owner's own forces and separate contractors employed by the Owner.

ARTICLE 8 CONTRACTOR

§ 8.1 Review of Contract Documents and Field Conditions by Contractor

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

§ 8.1.2 The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner. Before commencing activities, the Contractor shall (1) take field measurements and verify field conditions; (2) carefully compare this and other information known to the Contractor with the Contract Documents; and (3) promptly report errors, inconsistencies, or omissions discovered to the Architect.

§ 8.2 Contractor's Construction Schedule

The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work.

§ 8.3 Supervision and Construction Procedures

§ 8.3.1 The Contractor shall supervise and direct the Work using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work.

§ 8.3.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner, through the Architect, the names of subcontractors or suppliers for each portion of the Work. The Contractor shall not contract with any subcontractor or supplier to whom the Owner or Architect have made a timely and reasonable objection.

§ 8.4 Labor and Materials

§ 8.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work.

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

§ 8.5 Warranty

The Contractor warrants to the Owner and Architect that: (1) materials and equipment furnished under the Contract will be new and of good quality unless otherwise required or permitted by the Contract Documents; (2) the Work will be free from defects not inherent in the quality required or permitted; and (3) the Work will conform to the requirements of the Contract Documents. Any material or equipment warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 12.5.

§ 8.6 Taxes

The Contractor shall pay sales, consumer, use, and similar taxes that are legally required when the Contract is executed.

§ 8.7 Permits, Fees and Notices

§ 8.7.1 The Contractor shall obtain and pay for the building permit and other permits and governmental fees, licenses, and inspections necessary for proper execution and completion of the Work.

§ 8.7.2 The Contractor shall comply with and give notices required by agencies having jurisdiction over the Work. If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume full responsibility for such Work and shall bear the attributable costs. The Contractor shall promptly notify the Architect in writing of any known inconsistencies in the Contract Documents with such governmental laws, rules, and regulations.

§ 8.8 Submittals

The Contractor shall promptly review, approve in writing, and submit to the Architect shop drawings, product data, samples, and similar submittals required by the Contract Documents. Shop drawings, product data, samples, and similar submittals are not Contract Documents.

§ 8.9 Use of Site

The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits, the Contract Documents, and the Owner.

§ 8.10 Cutting and Patching

The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly.

§ 8.11 Cleaning Up

The Contractor shall keep the premises and surrounding area free from accumulation of debris and trash related to the Work. At the completion of the Work, the Contractor shall remove its tools, construction equipment, machinery, and surplus material; and shall properly dispose of waste materials.

§ 8.12 Indemnification

To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them, from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts

they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder.

ARTICLE 9 ARCHITECT

§ 9.1 The Architect will provide administration of the Contract as described in the Contract Documents. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 9.2 The Architect will visit the site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the Work.

§ 9.3 The Architect will not have control over or charge of, and will not be responsible for, construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility. The Architect will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents.

§ 9.4 Based on the Architect's observations and evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor.

§ 9.5 The Architect has authority to reject Work that does not conform to the Contract Documents.

§ 9.6 The Architect will promptly review and approve or take appropriate action upon Contractor's submittals, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 9.7 On written request from either the Owner or Contractor, the Architect will promptly interpret and decide matters concerning performance under, and requirements of, the Contract Documents.

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

§ 9.9 The Architect's duties, responsibilities, and limits of authority as described in the Contract Documents shall not be changed without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

ARTICLE 10 CHANGES IN THE WORK

§ 10.1 The Owner, without invalidating the Contract, may order changes in the Work within the general scope of the Contract, consisting of additions, deletions or other revisions, and the Contract Sum and Contract Time shall be adjusted accordingly, in writing. If the Owner and Contractor cannot agree to a change in the Contract Sum, the Owner shall pay the Contractor its actual cost plus reasonable overhead and profit.

§ 10.2 The Architect may authorize or order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. Such authorization or order shall be in writing and shall be binding on the Owner and Contractor. The Contractor shall proceed with such minor changes promptly.

§ 10.3 If concealed or unknown physical conditions are encountered at the site that differ materially from those indicated in the Contract Documents or from those conditions ordinarily found to exist, the Contract Sum and Contract Time shall be subject to equitable adjustment.

ARTICLE 11 TIME

§ 11.1 Time limits stated in the Contract Documents are of the essence of the Contract.

§ 11.2 If the Contractor is delayed at any time in progress of the Work by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, or other causes beyond the Contractor's control, the Contract Time shall be subject to equitable adjustment.

§ 11.3 Costs caused by delays or by improperly timed activities or defective construction shall be borne by the responsible party.

ARTICLE 12 PAYMENTS AND COMPLETION

§ 12.1 Contract Sum

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

§ 12.2 Applications for Payment

§ 12.2.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment for Work completed in accordance with the values stated in this Agreement. The Application shall be supported by data substantiating the Contractor's right to payment as the Owner or Architect may reasonably require, such as evidence of payments made to, and waivers of liens from, subcontractors and suppliers. Payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment stored, and protected from damage, off the site at a location agreed upon in writing.

§ 12.2.2 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment, all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or other encumbrances adverse to the Owner's interests.

§ 12.3 Certificates for Payment

The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in part; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole. If certification or notification is not made within such seven day period, the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time and the Contract Sum shall be equitably adjusted due to the delay.

§ 12.4 Progress Payments

§ 12.4.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner provided in the Contract Documents.

§ 12.4.2 The Contractor shall promptly pay each subcontractor and supplier, upon receipt of payment from the Owner, an amount determined in accordance with the terms of the applicable subcontracts and purchase orders.

§ 12.4.3 Neither the Owner nor the Architect shall have responsibility for payments to a subcontractor or supplier.

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

§ 12.5 Substantial Completion

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

§ 12.5.2 When the Contractor believes that the Work or designated portion thereof is substantially complete, it will notify the Architect and the Architect will make an inspection to determine whether the Work is substantially complete. When the Architect determines that the Work is substantially complete, the Architect shall prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, establish the responsibilities of the Owner and Contractor, and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 12.6 Final Completion and Final Payment

§ 12.6.1 Upon receipt of a final Application for Payment, the Architect will inspect the Work. When the Architect finds the Work acceptable and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment.

§ 12.6.2 Final payment shall not become due until the Contractor submits to the Architect releases and waivers of liens, and data establishing payment or satisfaction of obligations, such as receipts, claims, security interests, or encumbrances arising out of the Contract.

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

ARTICLE 13 PROTECTION OF PERSONS AND PROPERTY

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs, including all those required by law in connection with performance of the Contract. The Contractor shall take reasonable precautions to prevent damage, injury, or loss to employees on the Work and other persons who may be affected thereby, the Work and materials and equipment to be incorporated therein, and other property at the site or adjacent thereto. The Contractor shall promptly remedy damage and loss to property caused in whole or in part by the Contractor, or by anyone for whose acts the Contractor may be liable.

ARTICLE 14 CORRECTION OF WORK

§ 14.1 The Contractor shall promptly correct Work rejected by the Architect as failing to conform to the requirements of the Contract Documents. The Contractor shall bear the cost of correcting such rejected Work, including the costs of uncovering, replacement, and additional testing.

§ 14.2 In addition to the Contractor's other obligations including warranties under the Contract, the Contractor shall, for a period of one year after Substantial Completion, correct work not conforming to the requirements of the Contract Documents.

§ 14.3 If the Contractor fails to correct nonconforming Work within a reasonable time, the Owner may correct it in accordance with Section 7.3.

ARTICLE 15 MISCELLANEOUS PROVISIONS

§ 15.1 Assignment of Contract

Neither party to the Contract shall assign the Contract as a whole without written consent of the other.

§ 15.2 Tests and Inspections

§ 15.2.1 At the appropriate times, the Contractor shall arrange and bear cost of tests, inspections, and approvals of portions of the Work required by the Contract Documents or by laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities.

§ 15.2.2 If the Architect requires additional testing, the Contractor shall perform those tests.

§ 15.2.3 The Owner shall bear cost of tests, inspections, or approvals that do not become requirements until after the Contract is executed. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 15.3 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules.

ARTICLE 16 TERMINATION OF THE CONTRACT

§ 16.1 Termination by the Contractor

If the Work is stopped under Section 12.3 for a period of 14 days through no fault of the Contractor, the Contractor may, upon seven additional days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed including reasonable overhead and profit, and costs incurred by reason of such termination.

§ 16.2 Termination by the Owner for Cause

§ 16.2.1 The Owner may terminate the Contract if the Contractor

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the subcontractors;

.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 is otherwise guilty of substantial breach of a provision of the Contract Documents.

§ 16.2.2 When any of the above reasons exist, the Owner, after consultation with the Architect, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may

.1 take possession of the site and of all materials thereon owned by the Contractor, and

.2 finish the Work by whatever reasonable method the Owner may deem expedient.

§ 16.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 16.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 16.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the Owner. This obligation for payment shall survive termination of the Contract.

§ 16.3 Termination by the Owner for Convenience

The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause. The Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 17 OTHER TERMS AND CONDITIONS

(Insert any other terms or conditions below.)

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

(If required by law, insert cancellation period, disclosures or other warning statements above the signatures.)

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
(Printed name and title)	*(Printed name and title)* LICENSE NO.: JURISDICTION:

SECTION 01 1100

PROJECT SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: New Concrete Walk & Bridge at TGC Juvenile Justice Center on 19th Street

B. Owner's Name: Tom Green County

C. Architect's Name: KFW Architects AIA

D. Project Base Proposal shall consist of the installation of a new concrete sidewalk to extend from the main JJC Facility, on the west side of the property, to the east approximately 320 liner feet to the Classroom Annex Facility, located on the eastside of the property. This new concrete walk will include the need of a concrete walk bridge to allow stormwater to flow under the bridge during storm events. The stormwater catchment area is rather large that sheds water from 19th Street and transverses the JJC property heading southwest to the Concho River. The walk bridge is needed to traverse the site during a rain event.

There is an Add Alternate in the project to address damaged concrete walks around the east Classroom Annex Building. This will require saw-cutting and removing existing walks, and forming and repouring these same walks.

Excavation of existing soil is required as well as concrete forming, placing reinforcing steel and placing and finishing concrete. Some handrails are needed at the walk bridge along with painted striping in the parking lot.

By submitting a bid, each bidder agrees to waive any claims it has or may have against the Owner, the Engineer, the Architect, and their respective employees and offices, arising out of or in connection with the administration, evaluation, or recommendation of any bid; waiver of any requirements under the Bid Documents; or the Contract Documents; acceptance or rejection or any bids; and award of the Contract. By submitting a bid, each bidder agrees to exhaust its administrative remedies under Owner's (Tom Green County) Policy or the Dispute Clause of any resulting contract before seeking judicial relief of any type in connection with any matter related to this solicitation, the award of any contract, and any dispute under any resulting contract.

1.02 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price.

1.03 WORK BY OWNER

A. Owner will provide the following:

1. Asbestos abatement if required.

1.04 OWNER OCCUPANCY

A. Owner intends to occupy the Project upon Substantial Completion.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations. Note that the existing facilities will remain operational during construction and that all necessary safety precautions to protect property shall be taken.

C. Schedule the Work to accommodate Owner occupancy.

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.

B. Arrange use of site and premises to allow:

1. Work by Others.

2. Work by Owner.

C. Provide access to and from site as required by law and by Owner:

1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.

2. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Utility Outages and Shutdown:

1. Prevent accidental disruption of utility services to other facilities.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2000

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change procedures.

D. Correlation of Contractor submittals based on changes.

E. Procedures for preparation and submittal of application for final payment.

1.02 RELATED SECTIONS

A. Contract Documents issued by the Architect.

1.03 SCHEDULE OF VALUES

A. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be considered.

B. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

C. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Identify site mobilization.

D. Include in each line item, the amount of Allowances specified in this section.

E. Include separately from each line item, a direct proportional amount of Contractor's overhead and profit.

F. Revise schedule to list approved Change Orders, with each Application for Payment.

G. A Five Percent (5%) Retainage will be withheld on all items being billed for and shown as work completed.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit to the Architect at monthly intervals.

B. Present required information in typewritten form.

C. Form: AIA G702 Application and Certificate for Payment and AIA G703 - Continuation Sheet including continuation sheets when required.

D. For each item, provide a column for listing each of the following:

1. Item Number.
2. Description of work.
3. Scheduled Values.
4. Previous Applications.
5. Work in Place and Stored Materials under this Application.
6. Authorized Change Orders.
7. Total Completed and Stored to Date of Application.
8. Percentage of Completion.
9. Balance to Finish.
10. Retainage.

E. Execute certification by signature of authorized officer.

F. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored Products.

G. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.

H. Submit three copies of each Application for Payment or email Pay Application with Items “I” below to Kye Franke, kye@kfwarchitects.com.

I. Include the following with the application:

1. Transmittal letter as specified for Submittals in Section 01 3000.
2. Construction progress schedule, revised and current as specified in Section 01 3000.
3. Partial release of liens from major Subcontractors and vendors.

J. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

A. Architect will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by the Conditions of the Contract by issuing supplemental instructions on AIA Form G710, or other documents.

B. Construction Change Directive: Architect may issue a document, signed by Owner, instructing Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. The document will describe changes in the Work, and will designate method of determining any change in Contract Sum or Contract Time.

2. Promptly execute the change in Work.

C. Proposal Request: Architect may issue a document which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change. Contractor shall prepare and submit a fixed price quotation within 7 calendar days.

D. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 6000.

E. Computation of Change in Contract Amount:

1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.

2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.

3. For change ordered by Architect without a quotation from Contractor, the amount will be determined by Architect based on the Contractor's substantiation of costs as specified for Time and Material work.

F. Substantiation of Costs: Provide full information required for evaluation.

1. On request, provide following data:

a. Quantities of products, labor, and equipment.

b. Taxes, insurance, and bonds.

c. Overhead and profit.

d. Justification for any change in Contract Time.

e. Credit for deletions from Contract, similarly documented.

2. Support each claim for additional costs with additional information:
    a. Origin and date of claim.
    b. Dates and times work was performed, and by whom.
    c. Time records and wage rates paid.
    d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

G. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract on AIA G701.

H. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

I. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

J. Promptly enter changes in Project Record Documents.

1.06 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due. Submit to Architect.

B. Application for Final Payment will not be considered until the following have been accomplished:
    1. All closeout procedures specified in Section 01 7000.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2200

ALLOWANCES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Cash allowances.
   2. Contingency allowance.

B. Related Sections
   1. Section 01 2000 – Price and Payment Procedures.
   2. Section 01 3000 – Administrative Requirements.

C. Include in Contract Sum cash allowances scheduled at end of Section and contingency allowance specified in this Section.

D. Designate in Construction Progress Schedule specified in delivery dates for products under each allowance.

E. Designate in Schedule of Values specified in quantities of materials under unit cost allowances.

1.2 CASH ALLOWANCES

A. General:
   1. Purchase products under each allowance as directed by Architect.
   2. Amount of allowance includes:
      a. Net cost of product, less any applicable trade discounts.
      b. Delivery to site.
      c. Applicable taxes.
      d. Labor required under allowance, only when labor is specified to be included in allowance.
   3. In addition to amounts of allowances, include in Contract Sum, General Contractor's costs for:
      a. Handling at site, including unloading, uncrating, and storing.
      b. Protection from elements and from damage.
      c. Labor required for installation and finishing, except where installation is specified to be part of allowance.
      d. Other expenses required to complete installation.
   4. General Contractor's overhead and profit shall be included in the Contract Sum itself, including on any allowances as noted. At the conclusion of the Project, Construction Manager shall return any unused portion of allowances back to the Owner and the reduction of the General Contractor's overhead and profit should be reflected on the final payment for this reduction in construction cost.
   5. At closeout of Contract, funds remaining in Allowances will be credited to Owner by Change Order showing final construction cost.

B. Selection of Products:
   1. Architect's Duties:
      a. Consult with General Contractor in consideration of products and suppliers.
      b. Make selection; designate products to be used.
   2. General Contractor's Duties:
      a. Assist Architect in determining:
         (1) Supplier or installer, as applicable. Cost, delivered and unloaded at site.
      b. Obtain proposals from suppliers when requested by Architect.

c. Notify Architect of any effect anticipated by selection of product or supplier under consideration on construction schedule or contract sum.
d. On notification of selection, enter into purchase agreement with designated supplier.

C. Delivery:
1. General Contractor's Duties:
a. Arrange for delivery and unloading.
b. Promptly inspect products for damage or defects.
c. Submit any claims for transportation damage.

D. Installation: Comply with requirements of referenced specification section.

E. Adjustment of Costs:
1. Should actual purchase cost be more or less than specified amount of allowance, Contract Sum will be adjusted by Change Order equal to amount of difference.
2. Amount of Change Order will recognize any changes in handling costs at site, labor, installation costs, overhead, profit, and other expenses caused by selection under allowance.
3. For products specified under unit cost allowance, unit cost shall apply to quantity listed in Schedule of Values.
4. Submit invoices or other data to substantiate quantity actually used.
5. Submit any claims for additional costs at site or other expenses caused by selection under allowances, prior to execution of work. Failure to do so will constitute waiver of claims for additional costs.

1.3 **CONTINGENCY ALLOWANCES:**
Include in Contract Sum a stipulated sum of the following contingencies:
(1) **General Contractor's Contingency: Three Thousand Dollars ($3,000)**
(2) **Owner's Contingency: Seven Thousand Dollars ($7,000)**
for use (both) upon Owner's instruction.

2. General Contractor's costs for products, delivery, installation, equipment and labor will be included in "Field Request for Owner's Contingency" (FROC) and "Field Request Contractor's Contingency" (FRCC) forms authorizing expenditure of funds from these Contingency Allowance. Both Contingency Allowances shall be required to have signed authorization of the Owner, Architect and General Contractor.
3. Funds will be drawn from Contingency Allowance only by FROC & FRCC, signed by Owner, Architect and General Contractor.
4. General Contractor's overhead and profit shall be included in the Contract Sum itself, including on the contingency and any allowances as noted. At the conclusion of the Project, General Contractor shall return any unused portion of the contingency or allowances back to the Owner and the reduction of the General Contractor's overhead and profit should be reflected on the final payment for this reduction in construction cost.
5. At Closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order showing final construction cost.

1.4 **TOILET ACCESSORIES ALLOWANCE:**
Zero Dollars ($0,000.00)

1.5 **INTERIOR SIGNAGE ALLOWANCE:**
Zero Dollars ($0,000.00). Refer to Spec. Section 10 1423 for related information.

1.6 **FINISH HARDWARE ALLOWANCE:**
Zero Dollars ($0,000.00). Refer to Spec. Section 08 7100 for related information.

END OF SECTION

SECTION 01 2300

ALTERNATES

PART 1 GENERAL

1.1 SUMMARY:

A. Section Includes Documentation of changes to Contract Sum and Contract Time.

B. Contract Documents contain pertinent requirements for materials and methods to accomplish work described herein.

C. Provide alternate costs for inclusion in Contract Sum if accepted by Owner.

1.2 RELATED REQUIREMENTS:

A. Owner/General Contractor Agreement: Alternates accepted by Owner for incorporation into the Work.

B. Individual specification sections identified.

1.3 PROCEDURES:

A. All work (including any alternates) shall be part of Base Proposal cost. Any alternates will be exercised at the option of Owner and then deducted from the Base Proposal.

B. Coordinate related work and modify surrounding work as required to complete the work, including changes under each Alternate, when acceptance is designated in Owner/General Contractor Agreement.

1.4 DESCRIPTION OF ALTERNATES:

Add Alternate No. 1- Contractor is to provide pricing to remove specified concrete walks at the Classroom Annex and replace with new reinforced concrete walks where noted on drawing sheets.

END OF SECTION

SECTION 01 2500

SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Product Substitution Procedures.

1.2 GENERAL

A. Definition: Proposal by Contractor to use manufacturer, product, material, or system different from one required in Contract Documents.

B. Do not substitute Products unless a substitution request has been approved by Architect.

C. Substitutions during Bidding: Refer to Instructions to Bidders.

D. Architect will consider substitution requests within 30 days after award of Contract. After initial 30 day period, substitutions requests will be considered only due to non-availability of a specified Product through no fault of Contractor.

E. In case of non-availability of a specified Product notify Architect in writing as soon as non-availability becomes apparent.

1.3 SUBSTITUTION REQUESTS

A. Submit substitution requests on form provided in Project Manual

B. Document specified product and proposed substitution with complete data, including:
   1. Product identification, including name and address of manufacturer.
   2. Product description, performance and test data, and reference standards.
   3. Sample, if requested.
   4. Description of any anticipated effect that acceptance of proposed substitution will have on Progress Schedule, construction methods, or other items of Work.
   5. Description of any differences between specified product and proposed substitution.
   6. Difference in cost between specified product and proposed substitution.

C. Burden of proof for substantiating compliance of proposed substitution with Contract Document requirements remains with Contractor.

D. A request constitutes a representation that the Contractor:
   1. Has investigated the proposed Product and determined that it meets or exceeds the quality level of the specified Product.
   2. Will provide the same warranty for the substitution as for the specified Product.
   3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.
   5. Will reimburse Owner for design services associated with re-approval by authorities or revisions to Contract Documents to accommodate the substitution.

E. Substitutions will not be considered if:
   1. They are indicated or implied on Shop Drawings or other submittals without submittal of a substitution request.
   2. Approval will require substantial revision of Contract Documents without additional compensation to Architect.

F. Submit electronically in Adobe PDF format.

G. Architect will notify Contractor of approval or rejection of each Substitution Request.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 01 2900

PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Schedule of Values.
   2. Applications for Payment.

B. Related Sections:
   1. Section 01 7700 - Closeout Procedures.

1.2 SCHEDULE OF VALUES

A. General:
   1. Submit a Schedule of Values to Architect at least 20 days prior to submitting first Application for Payment.
   2. Upon request of Architect, furnish additional data to support values given that will substantiate their correctness.
   3. Approved Schedule of Values will be used as basis for reviewing Contractor's Applications for Payment.

B. Form and Content:
   1. Format: AIA Document G703 - Continuation Sheet of Application and Certification for Payment
   2. Use Table of Contents of Project Manual as basis of format for listing costs of Work.
   3. List installed value of component parts of Work in sufficient detail to serve as basis for computing values for progress payments.
   4. Include separate line items for:
      a. Site mobilization.
      b. Bonds and insurance.
      c. Contractor's overhead and profit.
   5. For items on which payment will be requested for stored materials, break down value into:
      a. Cost of materials, delivered and unloaded, with taxes paid.
      b. Total installed value.
   6. For each line item that has a value of more than $25,000.00, break down costs to list major products or operations under each item.
   7. Total of costs listed in Schedule shall equal Contract Sum.

C. Submit electronic copy via Adobe PDF.

D. Review and Resubmittal:
   1. After initial review by Architect, revise and resubmit if required.
   2. Revise and resubmit along with next Application for Payment when a Change Order is issued. List each Change Order as a new line item.

1.3 APPLICATIONS FOR PAYMENT

A. Preparation:
   1. Format: AIA Document G702 - Application and Certification for Payment, supported by AIA Document G703 - Continuation Sheet.
   2. Prepare required information in typewritten format or on electronic media format.
   3. Use data from reviewed Schedule of Values. Provide dollar value in each column for each line item representing portion of work performed.

4. List each authorized Change Order as a separate line item, listing Change Order number and dollar value.
5. Prepare Application for Final Payment as specified in Section 01 7700.

B. Waivers of Lien:
1. Along with each Application for Payment, submit waivers of lien from Contractor and each Subcontractor or Sub-subcontractor included on the current month's Application for Payment.
2. Submit partial waivers on each item for amount requested, prior to deduction of retainage.
3. For completed items, submit full or final waiver.

C. Substantiating Data:
1. When Architect requires substantiating information, submit data justifying dollar amounts in question.
2. Provide one copy of data with cover letter showing Application number and date, and line item number and description.

D. Submittal:
1. Submit 5 copies of each Application for Payment.
2. Payment period: Submit at intervals stipulated in Owner/Contractor Agreement.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 01 3100

PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Project coordination.
   2. Coordination drawings.
   3. Project meetings.

B. Related Sections:
   1. Section 01 7700 - Contract Closeout.

1.2 PROJECT COORDINATION

A. Coordinate scheduling, submittals, and work of various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements.

B. Verify that utility requirement characteristics of operating equipment are compatible with building utilities. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to, and placing in service such equipment.

C. Coordinate space requirements and installation of mechanical and electrical items that are indicated diagrammatically on Drawings.
   1. Follow routing shown as closely as practical; place runs parallel with building lines.
   2. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. In finished areas, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.

E. Coordinate completion and clean up of work of separate Sections in preparation for Substantial Completion.

F. After Owner occupancy, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents to minimize disruption of Owner's activities.

1.3 COORDINATION

A. Hold coordination meetings with trades providing mechanical, plumbing, fire protection, and electrical work.

B. Resolve conflicts between trades, prepare composite coordination drawings and obtain signatures on original composite coordination Drawings.

C. When conflicts cannot be resolved:
   1. Cease work in areas of conflict and request clarification prior to proceeding.
   2. Prepare drawings to define and to indicate proposed solution.
   3. Submit drawings for approval when actual measurements and analysis of Drawings and Project Manual indicate that various systems cannot be installed without significant deviation from intent of Contract Documents.

D. Submit original composite coordination drawings as part of Project Record Documents specified in Section 01 7700.

1.4 PROJECT MEETINGS

A. Schedule and administer preconstruction conference, progress meetings, and pre-installation conferences

B. Make physical arrangements for meetings; notify involved parties at least 4 days in advance.

C. Record significant proceedings and decisions at each meeting; reproduce and distribute copies to parties in attendance and others affected by proceedings and decisions made.

1.5 PRECONSTRUCTION CONFERENCE

A. Schedule within 15 days after date of Notice to Proceed at Contractor's central site convenient to all parties.

B. Attendance:
   1. Contractor.
   2. Owner.
   3. Architect and principal consultants.
   4. Major subcontractors and suppliers as Contractor deems appropriate.

C. Review and Discuss:
   1. Relation and coordination of various parties, and responsible personnel for each party.
   2. Use of premises, including office and storage areas, temporary controls, and security procedures.
   3. Construction schedule and critical work sequencing.
   4. Processing of:
      a. Contract modifications.
      b. Shop Drawings, Product Data, and Samples.
      c. Applications for Payment.
      d. Substitutions.
      e. Requests for Information.
      f. Other required submittals.
   5. Adequacy of distribution of Contract Documents.
   6. Procedures for maintaining contract closeout submittals.
   7. Installation and removal of temporary facilities.
   8. Notification procedures and extent of testing and inspection services.

1.6 PROGRESS MEETINGS

A. Schedule bi-monthly progress meetings.

B. Location: Contractor's Project field office.

C. Attendance:
   1. Contractor.
   2. Owner.
   3. Architect and consultants as appropriate to agenda.
   4. Subcontractors and suppliers as appropriate to agenda.
   5. Others as appropriate to agenda.

D. Review and Discuss:

1. Work progress since previous meeting, including:
    a. Field observations, deficiencies, conflicts, and problems.
    b. Progress and completion date.
    c. Corrective measures needed to maintain quality standards, progress, and completion date.
2. Status of:
    a. Requests for information.
    b. Submittals.
    c. Contract modifications.
3. Coordination between various elements of Work.
4. Maintenance of Project Record Documents.
5. Contractor is to provide minutes to all progress meetings and send them out to all parties.

1.7 PRE-INSTALLATION CONFERENCES

A. Where required in individual specification Section, convene a pre-installation conference at project site or other designated location.

B. Require attendance of parties directly affecting or affected by work of the specific Section.

C. Review conditions of installation, preparation and installation procedures, and coordination with related work.

END OF SECTION

SECTION 01 3216

CONSTRUCTION PROGRESS SCHEDULES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Construction progress schedule.

B. Related Sections:
   1. Section 01 1100 - Summary of Work:
   2. Section 01 2900 - Payment Procedures.

1.2 FORMAT

A. Prepare Progress Schedule as a horizontal bar chart with separate bar for each major portion of Work or operation, identifying first work day of each week.

B. Sequence of Listings: Chronological order of the start of each item of Work.

C. Scale and Spacing: To provide space for notations and revisions.

D. Sheet Size: Multiples of 8-1/2 x 11 inches.

1.3 CONTENT

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.

B. Identify each item by specification Section number.

C. Identify work of logically grouped activities.

D. Provide subschedules to define critical portions of the entire Progress Schedule.

E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

F. Provide separate schedule of submittal dates for Shop Drawings, Product Data, and Samples, including:
   1. Dates reviewed submittals will be required from Architect.
   2. Decision dates for selection of finishes.
   3. Delivery dates for [Owner furnished products] [and] [Products identified under Allowance].

G. Coordinate content with Schedule of Values specified in Section 01 2900.

H. Revisions:
   1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
   2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.

I. Provide narrative report to define problem areas, anticipated delays, and impact on Progress Schedule. Report corrective action taken, or proposed, and its effect.

1.4 SUBMITTAL

A. Submit initial Progress Schedule within 15 days after date of Notice to Proceed. After review, resubmit required revised data within 10 days.

B. Submit revised Progress Schedule with each Application for Payment.

C. Submit one copy.

1.5 DISTRIBUTION

A. Distribute copies of approved Progress Schedule to project site file, Subcontractors, suppliers, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in Progress Schedule.

END OF SECTION

SECTION 01 3300

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Submittal procedures.
   2. Proposed Products list.
   3. Submittal schedule.
   4. Shop Drawings.
   5. Product Data.
   6. Samples.
   7. Quality control submittals.

B. Related Sections:
   1. Section 01 4000 - Quality Requirements.

1.2 SUBMITTAL PROCEDURES

A. Number each submittal with Project Manual section number and a sequential number within each section. Number resubmittals with original number and an alphabetic suffix.

B. Identify Project, Contractor, Subcontractor or supplier, pertinent Drawing sheet and detail numbers, and specification Section number, as appropriate.

C. Submit all submittals listed under “Submittals for Review” simultaneously for each Product or Specification Section.

D. Where multiple products functions as an assembly, group submittals for all related Products into single submittal.

E. Architect will not review incomplete submittals.

F. Apply Contractor’s stamp, signed or initialed certifying that:
   1. Submittal was reviewed.
   2. Products, field dimensions, and adjacent construction have been verified.
   3. Information has been coordinated with requirements of Work and Contract Documents.

G. Schedule submittals to expedite the Project, and deliver to Architect. Coordinate submittal of related items.

H. For each submittal, allow 14 days for Architect’s review, excluding delivery time to and from Contractor.

I. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of completed Work.

J. Revise and resubmit submittals when required; identify all changes made since previous submittal.

K. Distribute copies of reviewed submittals to concerned parties and to Project Record Documents file. Instruct parties to promptly report any inability to comply with provisions.

1.3 PROPOSED PRODUCTS LIST

A. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

B. Submit electronically in Adobe PDF format.

1.4 SUBMITTAL SCHEDULE

A. Within 15 days after date of Notice to Proceed, submit a submittal schedule showing all submittals proposed for project, including submittals listed as:
   1. Submittals for Review.
   2. Quality Control Submittals.
   3. Closeout Submittals.

B. Include for each submittal:
   1. Specification section number.
   2. Description of submittal.
   3. Type of submittal.
   4. Anticipated submittal date.
   5. For submittals requiring Architect’s review, date reviewed submittal will be required from Architect.

C. Submit electronically in Adobe PDF format.

1.5 SHOP DRAWINGS

A. Present information in clear and thorough manner.

B. Identify details by reference to sheet and detail numbers or room number shown on Drawings.

C. Reproductions of details contained in Contract Documents are not acceptable.

D. Submit electronically in Adobe PDF format.

1.6 PRODUCT DATA

A. Mark each copy to identify applicable products, models, options, and other data.

B. Supplement manufacturers' standard data to provide information unique to this Project.

C. Submit electronically in Adobe PDF format.

1.7 SAMPLES

A. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

B. Where so indicated, submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Architect's selection.

C. Include identification on each sample, with full Project information.

D. Unless otherwise specified in individual specifications, submit two of each sample.

E. Architect will notify Contractor of approval or rejection of samples, or of selection of color, texture, or pattern if full range is submitted.

1.8 QUALITY CONTROL SUBMITTALS

A. Quality control submittals specified in Section 01 4000 are for information and do not require Architect's responsive action except to require resubmission of incomplete or incorrect information.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. References and standards.

B. Quality assurance submittals.

C. Mock-ups.

D. Control of installation.

E. Tolerances.

F. Testing and inspection services.

G. Manufacturers' field services.

1.02 RELATED SECTIONS

A. Document 00700 - General Conditions: Inspections and approvals required by public authorities.

B. Section 01 3000 - Administrative Requirements: Submittal procedures.

C. Section 01 6000 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCES

A. ASTM C 1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 1997.

B. ASTM E 329 - Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction; 2000b.

C. ASTM E 543 - Standard Practice for Agencies Performing Nondestructive Testing; 1999.

D. ASTM E 548 - Standard Guide for General Criteria used for Evaluating Laboratory Competence; 1994.

1.04 SUBMITTALS

A. Testing Agency Qualifications:

1. Prior to start of Work, submit agency name, address, and telephone number, and names of full-time registered Engineer and responsible officer.

2. Submit copy of report of laboratory facilities inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

B. Design Data: Submit for Architect's knowledge as contract administrator or for the Owner, for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

C. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.

1. Include:

    a. Date issued.

    b. Project title and number.

    c. Name of inspector.

    d. Date and time of sampling or inspection.

    e. Identification of product and specifications section.

    f. Location in the Project.

    g. Type of test/inspection.

    h. Date of test/inspection.

    i. Results of test/inspection.

    j. Conformance with Contract Documents.

    k. When requested by Architect, provide interpretation of results.

2. Test reports are submitted for Architect's knowledge as contract administrator or for the Owner, for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

D. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.

1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

E. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

F. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.

1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.05 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.06 TESTING AND INSPECTION AGENCIES

A. Owner will employ services of an independent testing agency to perform certain specified testing.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have Work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.03 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.04 TESTING AND INSPECTION

A. See individual specification sections for testing required.

B. Testing Agency Duties:

1. Provide qualified personnel at site. Cooperate with Architect and Contractor in

performance of services.

2. Perform specified sampling and testing of products in accordance with specified standards.
3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
4. Promptly notify Architect and Contractor of observed irregularities or non-conformance of Work or products.
5. Perform additional tests and inspections required by Architect.
6. Submit reports of all tests/inspections specified.

C. Limits on Testing/Inspection Agency Authority:

1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
2. Agency may not approve or accept any portion of the Work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the Work.

D. Contractor Responsibilities:

1. Deliver to agency at designated location, adequate samples of materials proposed to be used which require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
3. Provide incidental labor and facilities:
    a. To provide access to Work to be tested/inspected.
    b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
    c. To facilitate tests/inspections.
    d. To provide storage and curing of test samples.
4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

E. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Architect. Payment for re testing will be charged to the Contractor by deducting testing charges from the Contract Price.

3.05 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

B. Submit qualifications of observer to Architect 30 days in advance of required observations.

C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.06 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to specified requirements.

B. If, in the opinion of Architect, it is not practical to remove and replace the Work, Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

Note: General Contractor will require a superintendent, dedicated to this project.

1.01 SECTION INCLUDES.

A. Temporary sanitary facilities.

B. Temporary Controls: Barriers, enclosures, and fencing.

C. Security requirements.

D. Vehicular access and parking.

E. Waste removal facilities and services.

F. Field offices

1.02 TEMPORARY UTILITIES

A. Existing utilities may be used.

1.03 TELEPHONE SERVICE

A. Provide and maintain a mobile phone with voice mail or an answering service. Mobile phone shall be accessible during normal business hours during mobilization and for the duration of the project.

1.04 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Use of existing facilities is not permitted.

C. Maintain daily in clean and sanitary condition.

1.05 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Provide barricades required by governing authorities for public rights-of-way and for public access to existing building.

C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.06 FENCING

A. Provide barriers to prevent unauthorized entry to construction areas, to allow for Owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition. This can be chain link fencing – no PVC orange fencing.

1.07 EXTERIOR ENCLOSURES

A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and

to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.08 INTERIOR ENCLOSURES

A. Provide temporary partitions and ceilings extending from floor to structure above to separate work areas from completed areas, to prevent penetration of dust and moisture, and to prevent damage to existing materials and equipment.

B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces:

1. Maximum flame spread rating of 75 in accordance with ASTM E 84.

1.09 SECURITY

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.10 VEHICULAR ACCESS AND PARKING

A. Coordinate access and haul routes with governing authorities and TGC.

B. Provide and maintain access to fire hydrants, free of obstructions.

C. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.11 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site as required by TGC.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

1.13 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.

B. Clean and repair damage caused by installation or use of temporary work.

C. Restore existing facilities used during construction to original condition.

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations and procedures.

F. Procedures for Owner-supplied products.

G. Spare parts and maintenance materials.

1.02 RELATED SECTIONS

A. Section 01 4000 - Quality Requirements: Product quality monitoring.

1.03 SUBMITTALS

A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

1. Submit within 15 days after date of Agreement.

2. For products specified only by reference standards, list applicable reference standards.

B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

C. Shop Drawing Submittals: Prepared specifically for this Project.

D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

E. Indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

B. Do not use products having any of the following characteristics:

1. Made using or containing ACM’s, CFC's or HCFC's.

C. Provide interchangeable components from the same manufacturer for components being

replaced.

D. Motors: Refer to Division 16 sections, NEMA MG 1 Type. Specific motor type is specified in individual specification sections.

E. Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Size terminal lugs to NFPA 70, include lugs for terminal box.

F. Cord and Plug: Provide minimum 6 foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Provide spare parts, maintenance, and extra products of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section.

B. Architect will consider requests for substitutions only within 30 days after date of Agreement.

C. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

D. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

E. A request for substitution constitutes a representation that the submitter:

1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
2. Will provide the same warranty for the substitution as for the specified product.
3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to Owner.
4. Waives claims for additional costs or time extension which may subsequently become apparent.
5. Will reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.

F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

G. Substitution Submittal Procedure:

1. Submit three copies of request for substitution for consideration using the substitution request forms included at the end of this section. Limit each request to one proposed substitution.
2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
3. The Architect will notify Contractor in writing of decision to accept or reject request.

3.02 OWNER-SUPPLIED PRODUCTS

A. Owner's Responsibilities:

1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
2. Arrange and pay for product delivery to site.
3. On delivery, inspect products jointly with Contractor.
4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:

1. Review Owner reviewed shop drawings, product data, and samples.
2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
3. Handle, store, install and finish products.
4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

B. Transport and handle products in accordance with manufacturer's instructions.

C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment

favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.

G. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

I. Prevent contact with material that may cause corrosion, discoloration, or staining.

J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 7000

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition.

C. Pre-installation meetings.

D. Cutting and patching.

E. Cleaning and protection.

F. Starting of systems and equipment.

G. Demonstration and instruction of Owner personnel.

H. Closeout procedures, except payment procedures.

1.02 RELATED SECTIONS

A. Section 01 1100 - Summary: Work sequence.

B. Section 01 3000 - Administrative Requirements: Submittals procedures.

C. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

D. Section 01 5000 - Temporary Facilities and Controls: Temporary interior partitions.

E. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties and bonds.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.04 PROJECT CONDITIONS

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

B. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

D. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.

1.05 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements.

B. Notify affected utility companies and comply with their requirements.

C. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

D. Coordinate space requirements, supports, and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

F. Coordinate completion and clean-up of work of separate sections.

G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or mis-fabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

A. When required in individual specification sections, convene a pre-installation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect four days in advance of meeting date.

D. Prepare agenda and preside at meeting:

1. Review conditions of installation, preparation and installation procedures.
2. Review coordination with related work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 CUTTING AND PATCHING

A. Execute cutting and patching to complete the work, to uncover work in order to install improperly sequenced work, to remove and replace defective or non-conforming work, to remove samples of installed work for testing when requested, to provide openings in the work for penetration of mechanical and electrical work, to execute patching to complement adjacent work, and to fit products together to integrate with other work.

B. Execute work by methods to avoid damage to other work, and which will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

C. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

D. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

E. Restore work with new products in accordance with requirements of Contract Documents.

F. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

G. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 8400, to full thickness of the penetrated element.

H. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

I. Make neat transitions. Patch work to match adjacent work in texture and appearance. Where new work abuts or aligns with existing, perform a smooth and even transition.

J. Patch or replace surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. Repair substrate prior to patching finish. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

3.06 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do no burn or bury.

3.07 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is req'd., obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.08 STARTING SYSTEMS

A. Coordinate schedule for start-up of various equipment and systems.

B. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

C. Verify that wiring and support components for equipment are complete and tested.

D. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

E. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.09 DEMONSTRATION AND INSTRUCTION

A. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

3.10 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.11 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.

B. Use cleaning materials that are not hazardous.

C. Clean int. and ext. glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

E. Clean filters of operating equipment.

F. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

General clean up provided by the Contractor shall consists of sweeping and mopping of all non-carpeted areas; cleaning of all light fixtures, exit lights, HVAC vents, grills and registers; counter tops, sink/lavs; restroom fixtures, faucets and flush valves; walls, windows; doors and door knobs; mirrors. General cleaning may also include any other cleaning as may be deemed necessary by the TGC.

3.12 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

B. Notify Architect when work is considered ready for Substantial Completion.

C. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's review.

D. Correct items of work listed in executed Certificates of Substantial Completion and comply with requirements for access to Owner-occupied areas.

E. Notify Architect when work is considered finally complete.

F. Complete items of work determined by Architect's final inspection.

END OF SECTION

SECTION 01 7800

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Operation and Maintenance Data.

C. Warranties and bonds.

1.02 RELATED SECTIONS

A. Conditions of the Contract: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 01 3000 - Administrative Requirements: Submittal procedures, shop drawings, product data, and samples.

C. Section 01 7000 - Execution Requirements: Contract closeout procedures.

D. Individual Product Sections: Specific requirements for operation and maintenance data.

E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:

1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.

2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.

3. Submit 1 copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.

4. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:

1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.

2. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.

3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:

1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:

1. Manufacturer's name and product model and number.
2. Product substitutions or alternates utilized.
3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:

1. Measured depths of foundations in relation to finish first floor datum.
2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
4. Field changes of dimension and detail.
5. Details not on original Contract drawings.

G. All project record documents will be issued to architect upon completion of project.

3.02 OPERATION AND MAINTENANCE DATA

A. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:

1. Product data, with catalog number, size, composition, and color and texture designations.
2. Information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.

D. Additional information as specified in individual product specification sections.

E. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

3.05 OPERATION AND MAINTENANCE MANUALS

A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

B. Prepare data in the form of an instructional manual.

C. Binders: Commercial quality, 8-1/2” x 11” three D side ring binders with durable plastic covers; 2” maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

D. Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.

E. Text: Manufacturer's printed data, or typewritten data.

F. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

G. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.

H. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:

1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.

2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:

    a. Significant design criteria.

    b. List of equipment.

    c. Parts list for each component.

    d. Operating instructions.

    e. Maintenance instructions for equipment and systems.

    f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.

3. Part 3: Project documents and certificates, including the following:

    a. Shop drawings and product data.

    b. Air and water balance reports.

    c. Certificates.

d. Photocopies of warranties and bonds.

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

END OF SECTION

SECTION 02 4116

STRUCTURE DEMOLITION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Demolition of designated wall structures.
   2. Disconnection and removal of utilities.
   3. Demolition of walks, paving, curbs, gutters, and site improvements.
   4. Removal of materials from site.

1.2 SUBMITTALS

A. Submittals for Review:
   1. Demolition procedures and operational sequence.

B. Quality Control Submittals: Submit prior to beginning demolition:
   1. Permits authorizing building demolition.
   2. Certificates of severance of utility services.
   3. Permit for transportation and disposal of debris.

1.3 QUALITY ASSURANCE

A. Comply with applicable codes, ordinances, rules, and regulations, including those for demolition, transportation, and disposal of debris.

B. Arrange for, obtain permits and certificates for, and pay fees required for:
   1. Transportation and disposal of debris.
   2. Demolition.
   3. Utility severance or relocation, including removing meters and capping lines.
   4. Use or closing of streets, sidewalks, or other public places.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

3.1 PREPARATION

A. Prior to beginning demolition, verify that:
   1. Structures are unoccupied and removed from service.
   2. Temporary controls and devices are in place and operational.
   3. Utilities are temporarily or permanently disconnected or relocated as required.
   4. Items salvaged for Owner are removed and stored in designated area.

3.2 DEMOLITION

A. Demolish structures in accordance with demolition procedures approved by Architect.

B. Do not use water to extent causing flooding, contaminated runoff, or icing.

C. Break concrete and masonry into sections less than 3 feet in any dimension.

D. Remove slabs and foundations to full depth.

E. Remove below grade wood and metal.

F. Remove walks, paving, curbs, gutters, and site improvements.

G. Uniformly grade areas to smooth surface. Adjust contours to eliminate water ponding and provide positive drainage. Make grade changes gradually. Blend slopes into level areas.

3.3 MATERIAL DISPOSAL

A. Salvage: Remove, protect, and relocate materials designated to remain property of Owner.

B. Disposal:
   1. Materials, equipment, and debris resulting from demolition operations becomes property of the General Contractor. Remove debris as soon as practical.
   2. Cover debris in trucks to prevent spillage during transportation.
   3. Do not store or burn materials on site.
   4. Transport debris to off-site disposal area and legally dispose of.

END OF SECTION

SECTION 03 10 10

CONCRETE FORMWORK - CIVIL

Part 1 GENERAL

1.01 REFERENCES

A. All APPLICABLE REGULATIONS, LAWS, AND PUBLICATIONS; The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. All publications shall be the latest version/edition/revision of the documents listed below, in effect on the date of this solicitation, except where a date is given.

1. ACI INTERNATIONAL (ACI)

a. ACI347R – Guide to Formwork for Concrete

2. AMERICAN HARDBOARD ASSOCIATION (AHA)

b. AHA ANSI/AHA A135.4 – Basic Hardboard

3. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

c. ASTM C 578 – Rigid, Cellular Polystyrene Thermal Insulation

1.02 SUBMITTALS

A. The following shall be submitted in accordance with the GENERAL REQUIREMENTS:

B. Data

1. Form Materials: Manufacturer's data including literature describing form materials, accessories, and form releasing agents.

C. Instructions

1. Form Releasing Agents: Manufacturer's recommendation on method and rate of application of form releasing agents.

1.03 DESIGN

A. Formwork shall be designed in accordance with methodology of ACI 347R for anticipated loads, later pressures, and stresses. Forms shall be capable of producing a surface which meets the requirements of the class of finish specified in Section 033010 CAST-IN-PLACE CONCRETE – CIVIL. Forms shall be capable of withstanding the pressures resulting from placement and vibration of concrete.

1.04 STORAGE AND HANDLING

A. Store form material above ground level in a dry location and shall be kept dry until installed.

Part 2 PRODUCTS

2.01 FORM MATERIALS

A. Forms For Class C Finish

1. Forms for Class C finished surfaces shall be shiplap lumber; plywood conforming to DOC PS 1, Grade B-B concrete form panels, Class I or II; tempered concrete form hardboard conforming to AHA ANSI/AHA A135.4; other approved concrete form material; or steel, except that steel lining on wood sheathing shall not be used. Forms for round columns may have one vertical seam.

B. Form Releasing Agents

1. Form releasing agents shall be commercial formulations that will not bond with, stain or adversely affect concrete surfaces. Agents shall not impair subsequent treatment of concrete surfaces depending upon bond or adhesion nor impede the wetting of surfaces to be cured with water or curing compounds.

Part 2 EXECUTION

2.01 INSTALLATION

A. Forms shall be mortar tight, properly aligned and adequately supported to produce concrete surfaces meeting the surface requirements specified in Section 03310 CAST-IN-PLACE STRUCTURAL CONCRETE and conforming to construction tolerance given in TABLE 1. Where concrete surfaces are to have a Class A or Class B finish, joints in form panels shall be arranged as approved. Where forms for continuous surfaces are placed in successive units, the forms shall fit over the completed surface to obtain accurate alignment of the surface and to prevent leakage of mortar. Forms shall not be reused if there is any evidence of surface wear and tear or defects which would impair the quality of the surface. Surfaces of forms to be reused shall be cleaned of mortar from previous concreting and of all other foreign material before reuse. Form ties that are to be completely withdrawn shall be coated with a nonstaining bond breaker.

2.02 CHAMFERING

A. Except as otherwise shown, external corners that will be exposed shall be chamfered, beveled, or rounded by moldings placed in the forms.

2.03 COATING

A. Forms for Class A and Class B finished surfaces shall be coated with a form releasing agent before the form or reinforcement is placed in final position. The coating shall be used as recommended in the manufacturer's printed or written instructions. Forms for Class C and D finished surfaces may be wet with water in lieu of coating immediately before placing concrete, except that in cold weather with probable freezing temperatures, coating shall be mandatory. Surplus coating on form surfaces and coating on reinforcing steel and construction joints shall be removed before placing concrete.

2.04 REMOVAL OF FORMS

A. Forms shall be removed preventing injury to the concrete and ensuring the complete safety of the structure. Formwork for columns, walls, side of beams and other parts not supporting the weight of concrete may be removed when the concrete has attained sufficient strength to resist damage from the removal operation but not before at least 24 hours has elapsed since concrete placement. Supporting forms and shores shall not be removed from beams, floors and walls until the structural units are strong enough to carry their own weight and any other construction or natural loads. Supporting forms or shores shall not be removed before the concrete strength has reached 70 percent of design strength, as determined by field cured cylinders or other approved methods. This strength shall be demonstrated by job-cured test specimens, and by a structural analysis considering the proposed loads in relation to these test strengths and the strength of forming and shoring system. The job-cured test specimens for form removal purposes shall be provided in numbers as directed and shall be in addition to those required for concrete quality control. The specimens shall be removed from molds at the age of 24 hours and shall receive, insofar as possible, the same curing and protection as the structures they represent.

Table 1

TOLERANCES FOR FORMED SURFACES

1. In any 10 feet of length variations from the plumb ¼ inch

   a. In the lines and surfaces of columns, piers, walls and arises maximum for entire length 1 inch

   b. In any 20 feet of length for exposed corner columns, control joint grooves and other conspicuous lines ¼ inch, ½ inch for entire length

2. In any 10 feet of length variation from the level or from the grades indicated on the drawings ¼ inch, in any 20 feet of length 3/8 inch

   a. Maximum for the entire length in slab soffits, ceilings, beam soffits and arises, measured before removal of supporting shores ¾ inch

   b. In any bay or in any 20 feet of length, sills, parapets, horizontal grooves and other conspicuous lines ¼ inch, maximum for entire length ½ inch

3. In any 20 feet of length variation of the linear building lines from established position in plan ½ inch, maximum 1 inch

4. Variation of distance between walls, columns and partitions 1/4 inch per 10 feet of distance,
but not more than 1/2 inch in any one bay, and not more than 1 inch total variation

5. Variation in the sizes and locations of sleeves, floor openings and wall openings minus 1/4 inch, plus ½ inch

6. Variation in cross-sectional dimensions of columns and beams and in the thickness of slabs and walls minus 1/4 inch, plus ½ inch

7. Footings:

   a. Variation of dimensions in plan minus 1/2 inch, plus 2 inches when formed or plus 3 inches when placed against unformed excavation

   b. Misplacement of eccentricity 2 percent of the footing width in the direction of misplacement but not more than 2 inches

   c. Reduction in thickness of specified thickness minus 5 percent

8. Variation in steps: Riser 1/8 inch

   a. In a flight of stairs Tread 1/4 inch

   b. In consecutive steps Riser 1/16 inch, Tread 1/8 inch

END OF SECTION

SECTION 03 20 10

CONCRETE REINFORCEMENT - CIVIL

Part 1 GENERAL

1.01 REFERENCES

A. ALL APPLICABLE REGULATIONS, LAWS, AND PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. All publications shall be the latest version/edition/revision of the documents listed below, in effect on the date of this solicitation, except where a date is given.

1. ACI INTERNATIONAL (ACI)

a. ACI 318/318R – Building Code Requirements for Structural Concrete and Commentary

2. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

a. ASTM A 185 – Steel Welded Wire Fabric, Plain, for Concrete Reinforcement

b. ASTM A 615/A 615M – Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

c. ASTM A 675/A 675M – Steel Bars, Carbon, Hot-Wrought, Special Quality, Mechanical Properties

d. ASTM A 706/A 706M – Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement

e. ASTM A 767/A 767M – Zinc-coated (Galvanized) Steel Bars in Concrete Reinforcement

3. AMERICAN WELDING SOCIETY (AWS)

a. AWS D1.4 – Structural Welding Code – Reinforcing Steel

4. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)

a. CRSI MSP-1 – Manual of Standard Practice

1.02 SUBMITTALS

A. The following shall be submitted in accordance with Section 01010 GENERAL, PARAGRAPH SUBMITTAL REQUIREMENTS:

B. Shop Drawings

b. Reinforcement – Detail drawings showing reinforcing steel placement, schedules, sizes, grades, and splicing and bending details. Drawings shall show support details including types, sizes and spacing.

C. Certificates

c. Reinforcing Steel – Certified copies of mill reports attesting that the reinforcing steel furnished contains no less than 25 percent recycled scrap steel and meets the requirements specified herein, prior to the installation of reinforcing steel.

1.03 DELIVERY AND STORAGE

a. Reinforcement and accessories shall be stored off the ground on platforms, skids, or other supports.

Part 2 PRODUCTS

2.01 DOWELS

B. Dowels shall conform to ASTM A 675/A 675M, Grade 80.

2.02 REINFORCING STEEL

A. Reinforcing steel shall be deformed bars conforming to ASTM A 615/A 615M or ASTMA 706/A 706M, grades and sizes as indicated.

2.03 WELDED WIRE FABRIC

A. Welded wire fabric shall conform to ASTM A 185.

2.04 WIRE TIES

A. Wire ties shall be 16 gauge or heavier black annealed steel wire.

2.05 SUPPORTS

A. Bar supports for formed surfaces shall be designed and fabricated in accordance with CRSI MSP-1 and shall be steel or precast concrete blocks. Precast concrete blocks shall have wire ties and shall be not less than 4 inches square when supporting reinforcement on ground. Precast concrete block shall have compressive strength equal to that of the surrounding concrete. Where concrete formed surfaces will be exposed to weather or where surfaces are to be painted, steel supports within 1/2 inch of concrete surface shall be galvanized, plastic protected or of stainless steel. Concrete supports used in concrete exposed to view shall have the same color and texture as the finish surface. For slabs on grade, supports shall be precast concrete blocks, plastic coated steel fabricated with bearing plates, or specifically designed wire-fabric supports fabricated of plastic.

Part 3 EXECUTION

3.01 REINFORCEMENT

A. Reinforcement shall be fabricated to shapes and dimensions shown and shall conform to the requirements of ACI 318/318R. Reinforcement shall be cold bent unless otherwise authorized. Bending may be accomplished in the field or at the mill. Bars shall not be bent after embedment in concrete. Safety caps shall be placed on all exposed ends of vertical concrete reinforcement bars that pose a danger to life safety. Wire tie ends shall face away from the forms.

1. Placement

Reinforcement shall be free from loose rust and scale, dirt, oil, or other deleterious coating that could reduce bond with the concrete. Reinforcement shall be placed in accordance with ACI 318/318R at locations shown plus or minus one bar diameter. Reinforcement shall not be continuous through expansion joints and shall be as indicated through construction or contraction joints. Concrete coverage shall be as indicated or as required by ACI 318/318R. If bars are moved more than one bar diameter to avoid interference with other reinforcement, conduits or embedded items, the resulting arrangement of bars, including additional bars required to meet structural requirements, shall be approved before concrete is placed.

2. Splicing

Splices of reinforcement shall conform to ACI 318/318R and shall be made only as required or indicated. Splicing shall be by lapping. Lapped bars shall be placed in contact and securely tied or spaced transversely apart to permit the embedment of the entire surface of each bar in concrete. Lapped bars shall not be spaced farther apart than one-fifth the required length of lap or 6 inches.

3.02 WELDED-WIRE FABRIC PLACEMENT

A. Welded-wire fabric shall be placed in slabs as indicated. Fabric placed in slabs on grade shall be continuous between expansion, construction, and contraction joints. Fabric placement at joints shall be as indicated. Lap splices shall be made in such a way that the overlapped area equals the distance between the outermost crosswires plus 2 inches. Laps shall be staggered to avoid continuous laps in either direction. Fabric shall be wired or clipped together at laps at intervals not to exceed 4 feet. Fabric shall be positioned by the use of supports.

3.03 DOWEL INSTALLATION

A. Dowels shall be installed in slabs on grade at locations indicated and at right angles to joint being doweled. Dowels shall be accurately positioned and aligned parallel to the finished concrete surface before concrete placement. Dowels shall be rigidly supported during concrete placement. One end of dowels shall be coated with a bond breaker.

END OF SECTION

SECTION 03 30 10

CAST-IN-PLACE CONCRETE - CIVIL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Cast-in-place Concrete

1.02 MEASURMENT AND PAYMENT

A. As identified on the Bid-Agreement Form. Includes all necessary preparation, formwork, reinforcement, and placing shaping concrete.

1.03 REFERENCES

A. TxDOT 2004 Standard Specification Item 420 – Concrete Structures.

B. TxDOT 2004 Standard Specification Item 421 – Hydraulic Cement Concrete.

C. ASTM C94 – Ready-Mixed Concrete.

D. ASTM C150 – Portland Cement.

1.04 QUALITY ASSURANCE

A. Perform work in accordance with TxDOT Standard Specification Item 420 – Concrete Structures.

B. Owner will engage a testing and inspection service for quality control testing during construction.

PART2 PRODUCTS

2.01 CONCRETE MATERIALS

A. Cement: TxDOT Item 421 – Portland Cement Concrete

B. Fine and Coarse Aggregates: TxDOT Item 421 – Hydraulic Cement Concrete.

C. Water: Clean and not detrimental to concrete.

2.02 CONCRETE MIX

A. Mix concrete in accordance with TxDOT Item 420. Deliver concrete in accordance with ASTM C94.

B. Provide Concrete of the following Class or as specified on the plans.

Class	Min. 28 day Strength(psi)	Max. W/C Ratio	General Use
A	3,000	0.60	C&G,Flatwork,Manholes
B	2,000	0.60	Thrust Block, Rip-Rap
C	3,600	0.53	Concrete Pavement

C. Water-Cement ratio shall not exceed the figure established in the “Class of Concrete” table. If water is to be added to compensate for slump loss during transit, it shall be added only in accordance with the curve of cement-water ratio vs. compressive strength, as established by the concrete manufacturer, and only with the approval of the Engineer. No water shall be added at the project site for any reason without prior approval of the Engineer.

D. The maximum amount of coarse aggregate (dry loose volume) per cubic foot of finished concrete shall not exceed 0.82 cubic feet. In no case shall the amount of coarse aggregate be such that mix harshness or honeycombing results.

E. Use accelerating admixtures during hot weather only when approved by Engineer.

F. Use calcium chloride only when approved by Engineer.

G. Use set retarding admixtures during hot weather only when approved by Engineer.

H. Add air entraining agent to normal weight concrete mix for work exposed to exterior.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify requirements for concrete cover over reinforcement.

B. Verify the anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

3.02 PLACING CONCRETE

A. Place concrete in accordance with TxDOT Item 420, Concrete Structures.

B. Notify Engineer and Owner a minimum 24 hours prior to commencement of operations.

C. Ensure reinforcement, inserts, embedded parts, formed expansion and contraction joints are not disturbed during concrete placement.

3.03 CONCRETE FINISHING

A. Provide formed surfaces to be left exposed with smooth rubbed or as Scheduled on the plans.

3.04 CURING AND PROTECTION

A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Cure concrete in accordance with TxDOT Item 420, Concrete Structures or as approved by the Engineer. For concrete to be stained and sealed cure shall not be contrary to manufacturer's requirements.

3.05 FIELD QUALITY CONTROL

A. Owner will engage an independent testing and inspection agency to sample material, perform tests, and submit reports. Contractor shall be responsible for additional testing of concrete found to be deficient by initial testing by owner

B. Make at least 3 strength tests for each 50 cubic yards of concrete or fraction thereof, of each mixture design of concrete placed in one day.

3.06 PATCHING

A. Allow Engineer and Owner to inspect concrete surfaces immediately upon removal of forms.

B. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Engineer upon discovery.

C. Patch imperfections as directed.

3.07 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirement.

B. Repair or replacement of defective concrete will be determined by the Engineer.

C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Engineer for each individual area.

END OF SECTION

SECTION 05 4000

COLD-FORMED METAL FRAMING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Formed steel stud wall framing.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. American Iron and Steel Institute (AISI) - Specification for the Design of Cold-Formed Steel Structural Members.

B. American Society of Civil Engineers (ASCE) 7 - Minimum Design Loads for Buildings and Other Structures.

C. American Welding Society (AWS)D1.3 - Structural Welding Code - Sheet Steel.

D. ASTM International (ASTM):
   1. A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members.
   2. C1513 - Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections.

E. Society for Protective Coatings (SSPC) - Painting Manual.

F. Steel Framing Alliance (SFA).

1.3 SUBMITTALS

A. Submittals for Review:
   1. Shop Drawings: Indicate framing layout, components, connections, fastenings, etc.
   2. Product Data: Indicate framing components, sizes, materials, finishes, and accessories.

B. Quality Control Submittals:
   1. Certificates of Compliance: Certificate from Professional Structural Engineer responsible for system design that system was designed in accordance with Contract Document requirements, applicable Building Code, and generally accepted engineering practices.

1.4 QUALITY ASSURANCE

A. Manufacturer and Installer Qualifications: Minimum 5 years experience in work of this Section.

B. Manufacturer: Current member of SFA.

C. Calculate structural properties of framing members in accordance with AISI Specifications.

D. Welder Qualifications: AWS D1.3.

E. Design exterior wall stud system to withstand:
   1. Live and dead loads in accordance with Building Code.

2. Wind pressure loads in accordance with ASCE 7.
3. Movement caused by an ambient temperature range of 120 degrees F and a surface temperature range of 160 degrees F.
4. Maximum deflection under loading: L/600 without sheathing materials.

F. Design system to accommodate construction tolerances, deflection of building structural members, and clearances at openings.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
1. California Expanded Metal Company. www.cemcosteel.com)
2. ClarkDietrich Building Systems. (www.clarkdietrich.com)
3. Craco Mfg., Inc. (www.cracometals.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Framing Materials:
1. ASTM A1003/A1003M, galvanized sheet steel, G60 coating class.
2. Fabricate components to ASTM C955.
3. Studs: Channel profile, punched for utility access.
4. Tracks:
   a. Depth: As indicated on construction documents.
   b. Channel profile, same gage and depth as studs, unpunched.
   c. Top track: Deflection compensating type, deep leg runner with slotted screw holes; permit plus or minus 1/2 inch movement of overhead structure without damage to framing.
   d. Bottom track: 1-1/4 inch high legs.

2.3 ACCESSORIES

A. Bracing, Furring, Bridging: Formed sheet steel, thickness determined by performance requirements specified.

B. Plates, Gussets, Clips: Formed sheet steel, thickness determined by performance requirements specified.

C. Fasteners: ASTM C1513; self-drilling, self-tapping screws.

D. Touch Up Paint: SSPC Paint 20, Type I or II.

E. Welding Materials: AWS D1.3; type required for materials being welded.

2.4 FABRICATION

A. Prefabricate framing components using templates. Field fabrication prohibited except for minor alterations to accommodate site conditions.

B. Cut and fit members to tight fit.

C. Assemble components using screw connection method.

D. Fabricate straight, level, and true, without warp or rack.

E. Fabrication Tolerances:
   1. Variation from indicated length: Maximum 1/2 inch for components up to 30 feet long; maximum 3/4 inch for components over 30 feet long.
   2. Variation from indicated height: Maximum 1/4 inch for components up to 5 feet high; maximum 1/2 inch for components over 5 feet high.

PART 3 EXECUTION

3.1 INSTALLATION - GENERAL

A. Install framing components in accordance with ASTM C1007, manufacturer's instructions, and approved Shop Drawings.

B. Welding: In accordance with AWS D1.3.

C. Make provisions for erection stresses. Provide temporary alignment and bracing.

3.2 INSTALLATION - STUD FRAMING

A. Place top and bottom tracks in straight lines with ends butted. Fasten tracks at maximum 12” o.c.

B. Place studs at spacing indicated and not more than 2 inches from abutting walls and at each side of openings.

C. Connect studs to top and bottom tracks using fastener method.

D. Construct corners using minimum of three studs.

E. Double studs at wall openings, door jambs, and window jambs. Do not splice studs.

F. Erect studs, brace, and reinforce to develop full strength, to achieve design requirements.

G. Install headers above openings and intermediate studs above and below openings to align with wall stud spacing.

H. Install framing between studs for attachment of mechanical and electrical items, and to prevent stud rotation.

I. Laterally brace walls at location indicated.

3.3 INSTALLATION TOLERANCES

A. Maximum Variation from True Position and any Member from Plane: 1/4”

3.4 ADJUSTING

A. Touch up field connections and breaks in factory coatings with touch up paint applied in accordance with manufacturer's instructions.

END OF SECTION

SECTION 07 9200

JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sealants and joint backing.

B. Pre-compressed foam sealers.

1.02 RELATED SECTIONS

A. Section 08 8000 - Glazing: Glazing sealants and accessories.

B. Section 09 3000 - Tile: Sealant used with tile.

1.03 REFERENCES

A. ASTM C 834 - Standard Specification for Latex Sealants; 2000.

B. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants; 1998.

C. ASTM C 1193 - Standard Guide for Use of Joint Sealants; 2000.

D. ASTM D 1667 - Standard Specification for Flexible Cellular Materials--Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam); 1997.

1.04 SUBMITTALS

A. Contact Contractor for submittal procedures.

B. Product Data: Provide data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations, and color availability.

C. Manufacturer's Installation Instructions: Indicate special procedures.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the work of this section with minimum three years experience.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.07 COORDINATION

A. Coordinate the work with all sections referencing this section.

1.08 WARRANTY

A. Correct defective work within a (5) five year period after Date of Substantial Completion.

B. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal, exhibit loss of adhesion or cohesion, or do not cure.

C. The Warranties submitted under this Section shall not deprive the Owner of other rights or remedies that the Owner may have under other provisions of the Contract Documents and the laws of governing jurisdictions and is in addition to and runs concurrently with other warranties made by the Contractor under requirements of the Contract Documents.

PART 2 PRODUCTS

2.01 SEALANTS

A. General Purpose Exterior Sealant: Polyurethane; ASTM C 920, Grade NS, Class 25, Uses M, G, and A; single component.
   1. Color: Standard colors matching finished surfaces.
   2. Applications: Use for:
      a. Control, expansion, and soft joints in masonry.
      b. Joints between concrete and other materials.
      c. Joints between metal frames and other materials.
      d. Other exterior joints for which no other sealant is indicated.

B. Exterior Expansion Joint Sealer: Pre-compressed foam sealer; urethane with water-repellent;
   1. Color: Black.
   2. Size as required to provide weather-tight seal when installed.
   3. Provide product recommended by manufacturer for traffic-bearing use.
   4. Applications: Use for:
      a. Exterior wall expansion joints.
      b. Horizontal pedestrian traffic joints.

C. Exterior Metal Lap Joint Sealant: Butyl or polyisobutylene, nondrying, non-skinning, non-curing.
   1. Applications: Use for:
      a. Concealed sealant bead in sheet metal work.
      b. Concealed sealant bead in siding overlaps.

D. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C 834, Type OP, Grade NF single component, paintable.

1. Color: Standard colors matching finished surfaces.
2. Applications: Use for:
    a. Interior wall and ceiling control joints.
    b. Joints between door and window frames and wall surfaces.
    c. Other interior joints for which no other type of sealant is indicated.

E. Tile Sealant: White silicone; ASTM C 920, Uses I, M and A; single component, mildew resistant.

1. Applications: Use for:
    a. Joints between plumbing fixtures and floor and wall surfaces.
    b. Joints between kitchen and bath countertops and wall surfaces.

F. Interior Floor Joint Sealant: Polyurethane, self-leveling; ASTM C 920, Grade P, Class 25, Uses T, M and A; single component.

1. Approved by manufacturer for wide joints up to 1-1/2 inches.
2. Color: Standard colors matching finished surfaces.
3. Applications: Use for:
    a. Expansion joints in floors.

G. Concrete Paving Joint Sealant: Polyurethane, self-leveling; ASTM C 920, Class 25, Uses T, I, M and A; single component.

1. Color: Gray.
2. Applications: Use for:
    a. Joints in sidewalks and vehicular paving.

2.02 ACCESSORIES

A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.

B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.

C. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.

D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are ready to receive work.

B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

A. Remove loose materials and foreign matter which might impair adhesion of sealant.

B. Clean and prime joints in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C 1193.

D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C 1193.

C. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated:

1. Width/depth ratio of 2:1.
2. Neck dimension no greater than 1/3 of the joint width.
3. Surface bond area on each side not less than 75 percent of joint width.

D. Install bond breaker where joint backing is not used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

G. Tool joints concave.

H. Pre-compressed Foam Sealant: Do not stretch; avoid joints except at corners, ends, and intersections; install with face 1/8 to 1/4 inch below adjoining surface.

3.04 CLEANING

A. Clean adjacent soiled surfaces.

3.05 PROTECTION OF FINISHED WORK

A. Protect sealants until cured.

END OF SECTION

SECTION 099100

PAINTING

PART 1GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Interior Paints and Coatings
      a. Drywall: Gypsum board.
      b. Masonry: Concrete Masonry Units
   2. Interior High Performance Paints and Coatings:
      a. Masonry: Concrete Masonry Units
      b. Metal Ferrous: Decks, structural steel, joists, trusses, beams, and similar items including dryfall coatings.
      c. Drywall: Gypsum board
   3. Surface preparation and field application of paints.

B. Related Sections:
   1. Division 01: Administrative, procedural, and temporary work requirements.

1.2 REFERENCES

A. Green Seal, Inc. (GS) 11 - Standard for Paints and Coatings.

B. Master Painters Institute (MPI)- Architectural Painting Specification Manual.

C. Society for Protective Coatings (SSPC) - Painting Manual.

1.3 SUBMITTALS

A. Submittals for Review:
   1. Product Data: Manufacturer's data on materials proposed for use including:
      a. Product designation and grade.
      b. Product analysis and performance characteristics.
      c. Standards compliance.
      d. Material content.
      e. Mixing and application procedures.
   2. Paint Schedule: Indicate types and locations of each surface, paint materials, and number of coats to be applied.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Materials, Preparation, and Workmanship: Conform to MPI Painting Manual.

C. Mockup: Provide a mock-up for evaluation of surface preparation techniques and application workmanship
   1. Finish surfaces for verification of products, colors and sheens
   2. Finish area designated by Architect
   3. Provide samples that designate primer and finish coats.

1.5 DELIVERY, STORAGE AND HANDLING

A. Container Labels: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage rates, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

B. Paint Materials: Store at ambient temperature from 45 to 90 degrees F in ventilated area, or as required by manufacturer's instructions.

1.6 PROJECT CONDITIONS

A. Do not apply materials when surface and ambient temperatures or relative humidity are outside ranges required by paint manufacturer.

B. Maintain ambient and substrate temperatures above manufacturer’s minimum requirements for 24 hours before, during. and after paint application.

C. Do not apply materials when relative humidity is above 85 percent or when dew point is less than 5 degrees F different than ambient or surface temperature.

D. Provide lighting level of 30 foot candles at substrate surface.

1.7 MAINTENANCE

A. Extra Materials: 1 gallon of each color and sheen.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers:
   1. Sherwin Williams. (www.sherwin-williams.com)

B. Substitutions: Under provisions of Division 01.

2.2 MATERIALS

A. Paints and Coatings:
   1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer’s instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer’s product instructions.

B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as “best” by manufacturer.

C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer’s specifications.

D. Color: Paint colors as selected.

2.3 ACCESSORIES

A. Accessory Materials: Paint thinners and other materials required to achieve specified finishes; commercial quality.

B. Patching Materials: Latex filler.

C. Fastener Head Cover Materials: Latex filler.

D. Gypsum Board Texture

2.4 MIXES

A. Deliver paints pre-mixed and pre-tinted.

B. Uniformly mix to thoroughly disperse pigments.

C. Do not thin in excess of manufacturer's recommendations.

D. Re-mix paint during application; ensure complete dispersion of settled pigment and uniformity of color and gloss.

2.4 PAINT SYSTEMS

A. Drywall – Gypsum Board Interior Walls
   1. Latex Systems
      a. Eg-Shel Finish
         1) 1st Coat: S-W Harmony Interior Latex Primer, B11 (4mils wet, 1.3 mils dry)
         2) 2nd Coat: S-W Harmony Interior Latex Eg-Shel, B9 Series
         3) 3rd Coat: S-W Harmony Interior Latex Eg-Shel, B9 Series

B. Metal –
   1. , Steel doors, frames: Alkyd Systems (Water based):
      a. Semi-Gloss Finish
         1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series (5.0 mils wet, 2.0 mils dry)
         2) 2nd Coat: S-W Industrial Water Based Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series
   2. Exposed interior structural steel columns, beams: Dryfall Waterborne Topcoat:
      a. Eg-Shel Finish
         1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series (5.0 mils wet, 2.0 mils dry)
         2) 2nd Coat: S-W Pro Industrial Waterborne Acrylic Dryfall, B42-800 Series

PART 3 EXECUTION

3.1 EXAMINATION

A. Test shop applied primer for compatibility with subsequent coatings.

B. Measure moisture content of surfaces using electronic moisture meter. Do not apply coatings unless moisture content of surfaces are below following maximums:
   1. Gypsum board: 12 percent.
   2. Masonry and concrete: 12 percent.

3.2 PREPARATION

A. General:
   1. Protect adjacent and underlying surfaces.
   2. Remove electrical plates, hardware, light fixture trim, escutcheons, thermostats and fittings prior to preparing surfaces or finishing.
   3. Correct defects and clean surfaces capable of affecting work of this section.
   4. Seal marks that may bleed through surface finishes with waterborne stain blocker.

B. Gypsum Board:
   1. Fill minor defects with filler compound. Spot prime defects after repair.

2. Apply level 5 texture in accordance manufacturer's instructions.

C. Existing Brick and Unit Masonry Surfaces Scheduled to Receive Paint Finish: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry. Install primer and elastomeric finish coats.

D. Uncoated Ferrous Metals: SSPC Method SP2 - Hand Tool Cleaning or Method SP3 - Power Tool Cleaning.

E. Shop Primed Ferrous Metals:
1. SSPC Method SP2 - Hand Tool Cleaning or Method SP3 - Power Tool Cleaning.
2. Feather edges to make patches inconspicuous.
3. Prime bare steel surfaces.

3.3 APPLICATION

A. Apply paints in accordance with manufacturer’s instructions.

B. Apply primer or first coat closely following surface preparation to prevent recontamination.

C. Do not apply finishes to surfaces that are not dry.

D. Apply coatings to minimum dry film thickness recommended by manufacturer.

E. Apply each coat of paint slightly darker than preceding coat unless specified otherwise.

F. Apply coatings to uniform appearance without laps, sags, curtains, holidays, and brush marks.

G. Allow applied coats to dry before next coat is applied.

H. When required apply an additional finish coat to ensure color consistency.

I. Continue paint finishes behind wall-mounted accessories.

J. Sand between coats on interior metal surfaces.

K. Match final coat to approved color samples.

L. Mechanical and Electrical Components:
1. Remove unfinished and primed louvers, grilles, covers, and access panels; paint separately.
2. Paint exposed and insulated pipes, conduit, boxes, ducts, hangers, brackets, collars, and supports unless factory finished.
3. Do not paint name tags or identifying markings.
4. Paint exposed conduit and electrical equipment in finished areas.

3.5 CLEANING

A. Remove paint from adjacent surfaces.

END OF SECTION

SECTION 31 0800

COMMISSIONING OF SITEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements for Sitework.

PART 2 PRODUCTS

2.01 NOT USED

PART 3 EXECUTION

3.01 EXAMINATION

A. Site Verification of Conditions:

1. 48 hours minimum prior to performing any work on site, contact Dig Tess to arrange for utility location services.

2. Perform minor, investigative excavations to verify location of various existing underground facilities at sufficient locations to assure that no conflict with the proposed work exists and sufficient clearance is available to avoid damage to existing facilities.

3. Perform investigative excavations 5 days minimum in advance of performing any excavation or underground work.

4. Upon discovery of conflicts or problems with existing facilities, notify Engineer within 24 hours.

B. All work shall be performed in accordance with the Plans and Specifications. In the event there are inconsistencies between the plans and specifications, the more stringent shall apply.

3.02 PREPARATION

A. Protection:

1. Erosion Control: Take precautions necessary to prevent erosion and transportation of soil downstream, to adjacent properties, and into on-site or off-site drainage systems. The contractor and subcontractors shall be responsible for meeting the requirements of the TPDES General Permit No. TXR150000 and shall prepare a *Storm Water Pollution Prevention Plan* where required and adhere to the requirements set forth therein. The Contractor shall provide the Owner and Engineer with copies of all documentation associated with the plan.

2. Dust Control: Take precautions necessary to prevent dust nuisance, both on-site and adjacent to public and private properties. Correct or repair damage caused by dust.

3. Spillage: Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways. Remove spillage and sweep, wash, or otherwise clean project, streets, and highways.

4. Existing Plants and Features: Do not damage tops, trunks, and roots of existing trees and shrubs on site which are intended to remain. Do not use heavy equipment within branch spread. Interfering branches may be removed only with permission of Engineer. Do not damage other plants and features which are to remain.

B. Dimensional Control:

1. Survey Control: Refer to the plans for coordinate points or dimensional control data. The contractor shall field verify points and protect the same during construction. The contractor shall be responsible for all construction staking associated with the project.

C. REPAIR / RESTORATION

1. Adjust existing covers, boxes, and vaults to proposed/finished grade.

2. Replace broken or damaged covers, boxes, and vaults.

3. Independently confirm size, location, and number of covers, boxes, and vaults which require adjustment.

D. TRAFFIC CONTROL

1. Contractor to provide traffic control devices throughout duration of project.

E. FIELD QUALITY CONTROL

1. Owner will engage a testing and inspection service for quality control testing during construction.

2. Owner reserves right to require additional testing to re-affirm suitability of completed work including compacted soils which have been exposed to adverse weather conditions.

END OF SECTION

SECTION 31 10 00

SITE CLEARING

PART 1 GENERAL

1.01 WORK INCLUDED

A. Removal and disposal of all obstructions from the site that will interfere with the work, such as, but not limited to buildings, concrete drives, storm cellar, concrete slabs on grade, abandoned utility pipes or conduits, curbs and gutters, etc.

B. Install all barricades, fences, planking, bridges, bracing, shoring, lights, warning signs, guards, etc., as required for the protection of the public, street, sidewalks, adjoining property and workmen.

C. Pumping, bailing and draining of all surface or seepage water from the site.

D. Removal of trees, brush, existing vegetation, roots, logs, rocks, trash, debris, glass, decayed matter, etc., where appropriate for construction.

1.02 REGULATORY REQUIREMENTS

A. Conform to City codes for disposal of debris.

B. The Contractor shall be required to notify utility companies and the city water department when working in areas where utility lines might be encountered. The Contractor will be held responsible for all damage done to utility and water lines as a result of work done under this contract.

PART 2 PRODUCTS

2.01 Not Used

PART 3 EXECUTION

3.01 CLEARING

A. Clear areas required for access to site and execution of Work.

B. Remove trees and shrubs within marked areas. Grub out slumps and roots.

C. Clear undergrowth and deadwood, without disturbing subsoil.

D. Remove tree slumps and roots to ensure that the tree is dead and will not affect the foundations or turf/landscaping/playground sites in the future.

3.02 PROTECTION

A. Protect plant growth and features remaining as final landscaping.

B. Protect benchmarks and existing work from damage or displacement.

C. Maintain designated site access for vehicle and pedestrian traffic.

D. Coordinate tree removal with the electrical service company to avoid damage to existing service lines.

3.03 REMOVAL

A. Clean up all debris caused by the work of this Section, keeping the premises, streets, and adjacent property clean and neat at all times. After all work has been completed, patch any street and/or curb damaged by the work of this Contract in conformity with City requirements.

B. Clear areas established within the construction limits and execution of work. The contractor shall exercise caution to not damage at risk trees or trees designated to remain.

C. Trees, brush, slumps, and other deleterious matter, within the construction limits, and necessary for removal during construction shall be wasted off site.

D. Should field conditions exist which would warrant damage of a tree at risk, or a tree designated to remain, the contractor shall cease activity in that area and immediately contact the owner's representative for permission to proceed.

E. Holes remaining after removal of trees, slumps, etc., shall be backfilled with material approved by the Owner and compacted as directed except in areas to be excavated.

F. The Contractor shall complete the operation by blading, bulldozing, or other approved methods, so that the project shall be free of holes, ditches, or other abrupt changes in elevations that resulted from the clearing and grubbing operations.

G. Excavation of materials on areas where buildings, concrete pads, road pavement, etc. are located need to be taken down to the native soil. Deep plow prior to adding topsoil to reduce/eliminate voids.

H. Contractor shall be responsible for the removal of all debris from the site; this includes the costs of loading, hauling, and disposal of all material.

END OF SECTION

SECTION 31 22 00

GRADING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Removal of existing materials, topsoil, and subsoil.

B. Cutting, grading, filling, rough contouring, and compacting the site for site work outside of the Structural Engineer's scope.

1.02 QUALITY ASSURANCE

A. Owner will engage a testing and inspection service for quality control testing during construction.

PART 2 PRODUCTS

2.01 MATERIALS

A. Topsoil: The topsoil shall be fertile soil, be easily cultivated, be free from objectionable material, have a relatively high erosion resistance and be readily able to support the growth of planting, seeding, and sodding.

B. Structural Fill: As shown on the Plans.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify site conditions.

B. Verify that survey bench mark and intended elevations for the Work are as indicated.

3.02 PREPARATION

A. Identify required lines, levels, contours, and datum.

B. Stake and flag locations of known utilities.

C. Locate, identify, and protect utilities that remain, from damage.

D. Protect above and below grade utilities that remain.

E. Protect plant life, lawns, rock outcropping and other features remaining as a portion of final landscaping.

F. Protect bench marks, survey control point, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

3.03 FILLING

A. Fill areas to contours and elevations with approved materials.

B. Place fill material on continuous layers and compact in accordance with the schedule at end of this section.

C. Maintain optimum moisture content of fill materials to attain required compaction density.

D. Make grade changes gradual. Blend slope into level areas.

3.04 TOLERANCES

A. Top Surface of Subgrade: Plus or minus 0.10 foot from required elevation.

3.05 FIELD QUALITY CONTROL

A. Compaction testing will be performed at a rate of three tests per job-site or one test per 2,000 square yards, whichever is greater. The engineer may accept the work provided not more than one (1) out of five (5) consecutive density test performed is below the specified density, and provided the failing test is no more than one (1%) percent below the specified density.

B. Thickness measurement will occur at a rate of three tests per job-site or one test per 2,000 square yards, whichever is greater.

C. If tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.06 SCHEDULES

A. Structural Fill:
Maximum 8 inches compacted depth per lift.

B. Compact to density as shown on the plans.

C. Topsoil & Subsoil Fill:
Maximum 8 inches compacted depth per lift.

D. Compact to density as shown on the plans.

END OF SECTION

SECTION 31 23 00

EXCAVATION AND FILL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preparation.

B. Excavating.

C. Backfilling and compaction.

1.02 FIELD MEASUREMENTS

A. Verify that survey bench mark, control point, and intended elevations for the Work are as shown on drawings.

1.03 COORDINATION

A. Verify work associated with lower elevation utilities is complete before placing higher elevation utilities.

B. This specification does not pertain to work covered by the Structural Engineer's scope.

PART 2 PRODUCTS

2.01 FILL MATERIALS

A. Embedment material shall be as shown on the plans or as approved by the Engineer.

B. Backfill material shall be as shown on the plans or as approved by the Engineer.

PART 3 EXECUTION

3.01 PREPARATION

A. Identify required lines, levels, contours, and datum locations.

B. Protect plant life, lawns, and other features remaining as a portion of final landscaping.

C. Protect bench marks, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

D Maintain and protect above and below grade utilities which are to remain.

E. Cut out soft areas of subgrade not capable of compaction in place. Backfill with secondary backfill and compact to density equal to or greater than requirements for subsequent backfill material.

3.02 EXCAVATING

A. Conduct excavation of materials as required to provide the grades and elevations shown of the drawings and as required in the specifications.

B. Existing pavement, concrete, and other material required to be removed to facilitate the work shall be removed by the contractor and disposed of as required by law.

C. Stockpile excavated material in area designated by the engineer and remove excess material not to be reused or stockpiled from site.

3.03 BACKFILLING AND COMPACTION

A. Backfill Material: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.

B. Maintain optimum moisture content of fill materials within specified limits to attain required compaction density and moisture content.

3.04 TOLERANCES

A. Top Surface of General Backfilling: Plus or minus 0.10 feet of existing elevations or as shown on the plans.

3.05 FIELD QUALITY CONTROL

A. Compaction testing will be performed at a rate of three tests per job-site or one test per 1,000 square yards, whichever is greater. The engineer may accept the work provided not more than one (1) out of five (5) consecutive density test performed is below the specified density, and provided the failing test is no more than one (1%) percent below the specified density.

B. Thickness measurement will occur at a rate of three tests per job-site or one test per 3,000 square yards, whichever is greater.

C. If tests indicate Work does not meet specified requirements, remove Work, replace and retest.

3.06 PROTECTION OF FINISHED WORK

A. Reshape, recompact, and maintain fills subjected to vehicular traffic during construction.

END OF SECTION

SECTION 32 91 19

LANDSCAPE GRADING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Substrate preparation

B. Placing topsoil.

1.02 SCOPE

A. Includes excavating existing topsoil, supplying topsoil materials, stockpiling, preparing and scarifying substrate surface, placing where required, and rolling.

PART 2 PRODUCTS

2.01 MATERIAL

A. Topsoil: The topsoil shall be fertile soil, be easily cultivated, be free from objectionable material, have a relatively high erosion resistance and be readily able to support the growth of planting, seeding, and sodding.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify building and trench backfilling have been inspected.

B. Verify substrate base has been contoured and compacted.

3.02 SUBSTRATE PREPARATION

A. Eliminate uneven areas and low spots.

B. Remove debris, roots, branches, stones, in excess of 1 inch in size. Remove subsoil contaminated with petroleum products.

C. Scarify surface to depth of 3 inches where topsoil is scheduled. Scarify in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

3.03 PLACING TOPSOIL

A. Place topsoil in areas where seeding, sodding, or planting is required or as indicated on the drawings. Place topsoil during dry weather.

B. Fine grade topsoil to eliminate rough or low areas. Maintain profiles and contour of

subgrade.

C. Remove roots, weeds, rocks, and foreign material while spreading.

D. Manually spread topsoil close to plant life, buildings, and site structures to prevent damage.

E. Lightly compact or roll placed topsoil.

F. Remove surplus subsoil and topsoil from site.

G. Leave stockpile area and site clean and raked, ready to receive landscaping.

3.04 TOLERANCES

A. Top of Topsoil: Plus or minus 0.10 feet of proposed grade.

3.05 PROTECTION

A. Protect landscaping and other features remaining as final work.

3.06 SCHEDULES

A. Compacted topsoil thickness at the following areas unless noted otherwise on the plans:

1. Seeded Grass or Sod: 6 inches.

2. Shrub and Flower Beds: 18 inches.

END OF SECTION