PROJECT MANUAL

Including specifications
for the construction of the

PFLUGERVILLE ISD

2407.3 MULTI-CAMPUS RENOVATIONS – PHASE 3.1

Pflugerville Middle School

12 Chisholm Trail | Round Rock, Texas 78681 | (512) 758-7660

PROJECT MANUAL

including

SPECIFICATIONS

for the construction of the

PFLUGERVILLE ISD
2407.3 Multi-Campus Renovations – Phase 3.1
2021 CRYSTAL BEND DRIVE; PfLUGERVILLE, TX 78660

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DIVISION 00 – PROJECT PROCUREMENT AND CONTRACTING REQUIREMENTS

00 11 19 - REQUEST FOR PROPOSAL

Competitive sealed proposals for the Project Title Project will be received at the district administration building (1401 W Pecan St, Pflugerville, TX, 78660) until **2:00PM on March 5th, 2025** & at that time will be publicly opened & read aloud. Within 45 days after the date of opening proposals, the district intends to rank proposals based upon the published criteria & afterwards enter negotiations with the top ranked firm(s). The district reserves the right to waive any formalities, reject any & all proposals, & to accept the proposal(s) that in the District's opinion is most advantageous. Construction Documents are available on PfISD Purchasing website.

Refer to PfISD Purchasing Website for RFP and further bidding information.
https://www.pfisd.net/about-us/departments/procurement-and-auxiliary-services/information-for-vendors/bidding-opportunities

00 22 16 - SUPPLEMENTARY INSTRUCTIONS TO PROPOSERS

1. INSTRUCTIONS TO BIDDERS: American Institute of Architects document A701, latest edition, by reference forms a part of this specification. Copies of this document are available for review from the AIA website.

2. QUALIFICATION: It is the intention of these documents that only thoroughly qualified companies & individuals be employed on this project. The proposal of any Proposer that does not meet the qualification criteria or submit required data as instructed may be rejected. In considering a proposal for contract award, the Owner may also take into consideration the Proposer's past history of successfully completing school projects, their financial solvency, history of timely payments to subcontractors, history of completing projects on time, safety record & history of cost control.

3. ABBREVIATIONS: Abbreviations used generally follow the Construction Specifications Institute publication TD 2-4, November 1986. In the case of any discrepancy or question on the part of the Contractor, written request for clarification should be submitted immediately to the Architect. The Architect's resulting interpretation of abbreviations is final & binding on all parties involved in the work.

4. SITE INSPECTION: Each Proposer, before submitting a proposal for this work, shall visit the site to familiarize & satisfy himself with the existing conditions & requirements of the site & building under which he will be obligated to perform his work or that will in any manner affect the work. Contractors will not be allowed extra time or payment for conditions which can be determined by examining the site.

5. DOCUMENT CHECK: Prior to submissions of the Proposal, it is the Proposer's responsibility to check his set of Drawings & specifications with the Index of Drawings & the Table of Contents to verify that his proposal is based upon a complete set of documents.

6. PROPOSALS: Proposals must be based upon Contract Documents prepared & issued by Reliance Architecture. It is specifically understood & provided that the proposal submitted represents a true & correct statement of his proposal & contains no cause or claim of omission or error.

7. RESERVATION OF RIGHTS: The Owner reserves the right to reject any & all proposals when such rejection is in the best interest of the Owner, & to reject the proposal of any Proposer who, in the Owner's opinion, is not in a position to perform the Contract. The Owner will not award the Contract to any firm currently involved in bankruptcy or bankruptcy reorganization. The Owner may reject the proposal of any Proposer that does not meet the qualification criteria or submit required data as instructed. By submission of a proposal, the Contractor acknowledges the above & holds the Owner & Architect harmless of any claim that may arise from proposal selection.

8. TERMINATION OF PROPOSAL: No proposal shall be withdrawn or terminated for a period of 60 days subsequent to the opening of proposals without consent of the Owner, except if a proposal is accepted & a contract executed, or all proposals rejected.

9. TAX EXEMPT STATUS: The Owner is tax exempt as a school district & will provide certification upon request.

10. PAYMENT: Contingent upon the stipulations of the agreement & general conditions, payment will be made to the Contractor monthly for the value of work completed & materials stored on the site during the application period, less retainage.

11. CONFLICTS AND AMBIGUITIES. The Owner will not be bound by any oral or other informal explanation of the requirements of the Contract Documents. Any prospective Proposer detecting a conflict or ambiguity in the Contract documents should call the same to the attention of the Architect and request the issuance of a clarifying addendum.

12. SUBSTITUTION OF MATERIALS. Where a particular item of material or equipment is specified by brand name, it is not necessarily intended by the Owner to discriminate against all other products, but rather to prescribe a definite standard whereby to indicate the quality and capacity of the material or equipment required. Any prospective Proposer who may desire to propose a substitute should feel free to do so, requesting the issuance of an addendum approving the substitute. However, any such request must be submitted in writing five days before the time for closing receipt of proposals, and non-response to such a request will not constitute a granting of the request. Sufficient information should accompany the request to enable the Architect to promptly render a decision on a proposed substitution of materials or equipment

13. WITHDRAWAL AND AMENDMENT. Any Proposer may withdraw or amend his proposal at any time before the time for closing receipt of proposals. Any such amendment must be in writing and signed by the Proposer.

14. EXAMINATION OF SITE AND CONTRACT DOCUMENTS. Each Proposer shall visit the site of the proposed Work and shall fully acquaint himself with the conditions and limitations as they exist, including those of labor, and shall also thoroughly examine the Contract Documents. Failure of the Proposer to visit the site and acquaint himself with the Contract Documents shall in no way relieve Proposer from any obligations with respect to his proposal.

16. ASBESTOS. The Contractor shall comply with all applicable provisions and requirements of Federal and State laws and regulations on removal and/or encapsulation of asbestos in public schools, including 15 USCA sections 2641 et seq.; 40 CFR part 763; Tex. Rev. Civ. Stat. art. 4477-3a; and 25 Tex. Admin. Code § 295.31 et seq.

17. CHANGE ORDERS: Reimbursement for change orders will be limited to the actual cost of materials & labor, plus a 10% mark-up to the subcontractor & a 5% mark-up to the Contractor. If no Subcontractor labor is involved, Contractor may mark-up 10%. Equipment rental from the Contractor or subcontractor, office overhead & supervision will not be considered for reimbursement. Copies of all receipts for this work will be submitted with the relevant application for payment. A Change Order must be issued prior to performing any such work. Work performed without proper authorization will, at the Architect's option, remain without reimbursement to the Contractor or be removed at the Contractor's expense. All Contractor initiated requests for change order will be submitted to the Architect. No extra time or resulting damages will be allowed as a result of time required to evaluate or process change orders.

22. WAGE RATES: Local prevailing wage rates must be paid on this project.

23. INSURANCE REQUIREMENTS: Specific insurance requirements are contained in SECTION 00 73 00, modification of 11.1.2, General Conditions

24. SCOPE OF WORK: Each proposer shall include in his proposal amount all items of work that may be reasonably inferred from the Contract Documents. It is the intent of these documents that all systems, fixtures, materials & finishes will be provided in a completely functional & aesthetic manner, in accordance to all codes & standards in effect. All equipment will be provided with appurtenances & connection to services normally required for a properly functioning system. Each trade must review & consider the Construction Documents in their entirety before submitting a proposal & must identify any conflicts with other trades in their proposal. Each Proposer must submit all questions regarding perceived ambiguities, conflict or intent of the Contract Documents to the Architect in writing before submitting a proposal. The Architect’s interpretation of the Contract Documents will be final & binding without added cost or time.

25. CLAIM FOR DELAY: Any claim for damages directly or indirectly from extension of the Contract time shall not be valid unless approved in writing by the Owner & Architect.

26. ACM NOTIFICATION: Notify the Owner immediately upon encountering any asbestos containing material.

00 42 13 – COMPETITIVE SEALED PROPOSAL

The proposer, having carefully examined the Construction Documents (the Plans, Specs, Addenda), all related material & the proposed project site, hereby propose to furnish all materials, labor, tools & equipment to complete this project in full accordance to the Contract Documents within the time limits & price as follows.

Proposer to provide the number of consecutive calendar days, per the General Conditions, for scope of work. There will be a liquidated damages charge to the Contractor of $750 per day for each day the project is not completed beyond this limit.

Proposer shall acknowledge receipt of all Addenda.

By the act of submitting a proposal for the proposed contract, the Proposer represents that:

1. The Proposer and all subcontractors the Proposer intends to use have carefully and thoroughly reviewed the drawings, specifications and other construction documents and have found them complete and free from ambiguities and sufficient for the purpose intended.
1. The Proposer and all workers, employees and subcontractors the Proposer intends to use are skilled and experienced in the type of construction represented by the construction contract documents.
2. The proposal figure is based solely upon the construction contract documents and properly issued written addenda and not upon any other written representation.
2. Neither the Proposer nor any of his employees, agents, intended suppliers or subcontractors have relied upon any verbal representations from the Owner, or the Owner's employees or agents including architects, engineers or consultants, in assembling the proposal figure.
3. Refer to Pflugerville ISD Competitive Sealed Proposal on the PFISD website (https://www.pfisd.net/about-us/departments/procurement-and-auxiliary-services/information-for-vendors/bidding-opportunities). Fill in all blanks of the Proposal for each Campus as contained within the PFISD CSP.

00 43 43 - PREVAILING WAGE RATES

SEE: PFISD Board of Trustees adopted Wage Schedule

00 45 13 - BIDDER'S QUALIFICATIONS

PART 1 - GENERAL

1.1 GENERAL - It is the intention of these documents that only thoroughly qualified companies & individuals be employed on this project. The Owner may, at their option, reject the proposal of any proposer that does not meet the qualification criteria or submit required data as instructed. In considering a proposal for contract award, the Owner may also take into consideration the proposer's past history of successfully completing school projects, their financial solvency, history of timely payments to subcontractors, history of completing projects on time, safety record & history of cost control on projects.

1.2 SUBCONTRACTOR - Within 24 hours of proposal opening, the low proposer(s) & any other proposer notified by the Architect will deliver to the Architect's & Engineer's offices complete & notarized "Contractors Qualification Statement", AIA document A305 for proposed mechanical, plumbing, electrical, steel erection, & roofing subcontractors. As a minimum, all proposed subcontractors must meet, & show proof of, the following:

A. Three years in business under the current company name.

B. Experience of the proposed business entity on 3 public projects of equal or greater construction cost..

C. No involvement of proposed business entity or any of its principals in bankruptcy or bankruptcy reorganization for the past 5 years.

D. Full time employment of adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work.

E. Availability of all equipment required for proper performance of the work.

F. Financial reserves required for proper performance of the work.

PART 2 - PRODUCTS: NOT APPLICABLE

PART 3 - EXECUTION: NOT APPLICABLE

00 73 00 - SUPPLEMENTARY GENERAL CONDITIONS

GENERAL: American Institute of Architects document A201 as modified, by reference forms a part of this specification. These Supplementary Conditions are modifications or additions to the requirements of AIA A201-1987, "General Conditions of the Construction Contract" & shall apply to all other sections of work.

ADD THE FOLLOWING TO 1.1.3 - The Work shall include the obligation of the Contractor to visit the site of the project prior to submitting a proposal. Such site visit shall be for the purpose of familiarizing the Contractor with the conditions as they exist & the character of the operations to be carried on under the Contract Documents, including all existing site conditions, access to the site, physical characteristics of the site & surrounding areas.

DELETE THE TEXT OF 1.2.2 & REPLACE WITH THE FOLLOWING - Execution of the Contract by the Contractor is a representation that the Contractor has carefully examined the Contract Documents & the site, & represents that the Contractor is thoroughly familiar with the nature & location of the Work, the site, the specific conditions under which the Work is to be performed, & all matters which may in any way affect the Work or its performance. The Contractor further represents that as a result of such examination & investigations, the Contractor thoroughly understands the Contract Documents & their intent & purpose, & is familiar with all applicable codes, ordinances, laws, regulations & rules as they apply to the Work, & that the Contractor will abide by same. Claims for additional time or additional compensation as a result of the Contractor's failure to follow the foregoing procedure & to familiarize itself with all local conditions & the Contract Documents will not be permitted.

ADD THE FOLLOWING TO 1.2.3 - In the event of discrepancies within the Contract Documents, the highest standard as judged by the Architect will prevail. In the event of conflicting provisions within the Contract Documents, Specifications will take precedence over Drawings; the more specific provision will take precedence over the less specific; the more stringent will take precedence over the less stringent. In all cases, the more expensive item will take precedence over the less expensive. On Drawings, figures take precedence over scaled dimensions.

ADD THE FOLLOWING SECTION 1.2.6 - The Contractor will be required to provide, without additional compensation or added time, all items of work that may be reasonably inferred from the Contract Documents. It is the intent of these documents that all systems, fixtures, materials & finishes will be provided in a completely functional & aesthetic manner, in accordance to all codes & standards in effect. All equipment will be provided with appurtenances & connection to services normally required for a properly functioning system. Each trade must review & consider the Construction Documents in their entirety before submitting a proposal & must identify any conflicts with other trades in their proposal. The Contractor must submit any question regarding perceived ambiguities, conflict or intent of the Contract Documents to the Architect in writing before submitting a proposal. The Architect’s interpretation of the Contract Documents will be final & binding on the Contractor, without added cost or time.

ADD THE FOLLOWING TO 3.3 - The Contractor expressly recognizes that the Architect does not owe him any duty to supervise or direct his work as to protect the Contractor from the consequences of his own acts or omissions. The Contractor shall inspect all materials as delivered to the premises & shall reject any materials that will not conform with the Contract Documents when properly installed.

ADD THE FOLLOWING TO 3.12.6 - The Architect will reject any shop drawings that has not been properly reviewed & so stamped & signed by the Contractor prior to the submission. The Architect will also reject any shop drawing that does not show signs of a reasonable attempt at proper review of the submitted material.

ADD THE FOLLOWING TO 4.2.12 - The Architect will be the final authority in matters regarding interpretation the instructions & intent of the Contract Documents. Should any question arise regarding discrepancies in the Contract Documents, the Contractor shall make written request for clarification & receive such clarification from the Architect before proceeding, or proceed at his own risk. Any work not performed in compliance with the instructions & intent of the Contract Documents will be corrected at the Contractor's expense.

ADD THE FOLLOWING SECTION 4.2.14 - CONTRACTOR REQUESTS FOR INFORMATION:

In order to manage an orderly exchange of supplementary design information, the architect will accept a maximum of one Request for Information (RFI) per week per discipline, which may include multiple topics. RFIs should be submitted at a regular weekly meeting. RFIs in excess of one per week will be returned with no action taken.

The architect will respond no sooner than the following week in the form of an Architect's Supplementary Information (ASI), numbered in corresponding format to the RFI received. If a response cannot be made at that time, a response will be returned at the next soonest weekly meeting that adequate professional care will allow. The Architect will make all reasonable effort to respond to RFIs within 14 days.

Any RFI item that at the architect's sole discretion meets any of the following criteria may be returned with no action taken:

- The question is obviously discernible from the construction documents.
- The question is frivolous or without merit.
- The question has been previously discussed & resolved in a construction meeting.

The Contractor will review any RFI submitted by a subcontractor prior to submission to the Architect to ensure such RFIs are not already answered in the Contract Documents. The Architect shall be reimbursed by the Contractor for time spent reviewing RFIs which are already answered or inferable by the Contract Documents in accordance with the Architect's standard rates. Any question that relates to a substitution or change proposed by the Contractor will be answered at the architect's normal hourly rates & billed to the Contractor.

The Architect's response to RFIs will create no cause for delay in the project, no additional cost to the Owner, or cause any claim by the Contractor against the Architect or his consultants.

ADD THE FOLLOWING TO 4.3.1 - The Contractor shall not be entitled to any claim for damages of any kind arising directly or indirectly from extension of the Contract Time without prior written approval of the Owner & Architect.

DELETE THE LAST 7 WORDS OF 7.3.6.3 & REPLACE WITH – "not rented from the Contractor".

DELETE 7.3.6.5 IN ITS ENTIRETY.

ADD THE FOLLOWING SECTION 10.1.5 - It is the intent of these Documents to specify & have installed products & materials that contain no asbestos bearing materials. If any product incorporated by the Contractor within this construction is found to contain asbestos bearing materials, this material shall be properly removed & legally discarded by the Contractor with no expense to the Owner and/or Architect. If any asbestos bearing materials are encountered during this construction, the Contractor shall immediately stop work in the vicinity of the asbestos & notify the Architect immediately. Upon completion of this Project, the Contractor & Suppliers shall submit to the Owner certification that no asbestos bearing materials has been incorporated into this construction.

ADD THE FOLLOWING SECTION 10.1.6 - Comply with all laws governing safety, specifically the "Occupational Safety and Health Standards" (OSHA). General Contractor is to be responsible for controlling access to the site by means of appropriate fencing, gates & barricades. Care and caution shall be exercised by all members of all construction crews to provide a safe environment. Also, note that the Contractor is to maintain discipline of all construction crews and construction workers. Fraternizing with students, possession or use of tobacco products, alcohol beverages, illegal drugs or firearms on school property is strictly forbidden; violation by any individual is grounds for legal action & immediate removal from the project.

ADD THE FOLLOWING SECTION 10.2.8 - The Contractor shall promptly report to the Owner & Architect in writing all accidents arising out of or in connection with the Work that cause death, personal injury, or property damage. The report shall give full details & information in the possession of the Contractor. The Contractor shall immediately notify the Owner & Architect by telephone of such accident.

ADD THE FOLLOWING TO 11.1.2 - The Contractor will maintain at his expense during the term of this Contract insurance of at least the limits stated in parenthesis: Workmans Compensation & Employers Liability Insurance covering all employees (per State requirements), Comprehensive General Liability Insurance ($500,000/ person/ occurrence), Comprehensive Auto Liability Insurance ($500,000/ person/ occurrence) & Builders Risk insurance (at the Contract amount). The Contractor will either require each of his subcontractors to maintain coverage equal to the above, or insure their activities in his own policy. Issuing insurance company must have a "Best" rating of no less than B+ & be authorized to issue in Texas using State Board of Insurance Broad Form Policy. The school district will be named as a beneficiary or co-insured.

DELETE THE TEXT OF 11.4.1 & ADD THE FOLLOWING – As required by statute, Contractor shall furnish separate Performance & Payment Bonds in amounts equal to 100% of the Contract Sum as security for both the faithful performance of this Contract, & payment of all persons performing labor & furnishing materials in connection with this Contract. Bonds shall be delivered to the Owner prior to the date of execution of the Contract & must comply with the requirements of article 5160 of the revised civil statutes of Texas as amended by acts of the Legislature. Surety companies executing Bonds must be authorized to issue surety bonds in Texas in at least the amount of the bond. Bonds shall be signed by an agent resident in state & date of bond shall be the date of execution of the contract. Surplus lines carriers or individual sureties will not be accepted. If at any time during the continuance of the contract, the surety of the Contractor's bond becomes irresponsible, the contract may be suspended, & all payment due to the contractor withheld. The surety issuing bonds is required to reinsure any risk in excess of 10% of its capital & surplus with an authorized, accredited, or trusteed reinsurer, licensed in the state of Texas, who may not reinsure an amount greater than 10% of its capital & surplus. <u>All proposals must include a 5% bid bond</u>.

ADD THE FOLLOWING SECTION 11.5 - If the Owner or Contractor is damaged by the failure of the other to purchase or maintain any insurance or bond required by these Contract Documents, without the written consent of the other, then the party failing to so purchase or maintain such insurance or bonds shall pay all costs insured by the other party, including, but not limited to, reasonable attorney fees.

ADD THE FOLLOWING TO 13.5.1 - Other than those specifically required, the Owner may request any testing necessary to determine Contractor's compliance with the Construction Documents. If not in compliance, testing will be paid for by the Contractor. Contractor will coordinate this work at the Owner's instruction. Contractor will provide & pay for any testing specifically referred to in the Construction Documents.

ADD THE FOLLOWING SECTION 13.5.7 - Contractor shall notify Owner & Architect 24 hours minimum in advance of performing any work which would cover or otherwise make it difficult to inspect any work. Should any of said work be covered without proper notification having been given, Contractor shall uncover that work for inspection at his own expense.

00 73 17 - WORKERS COMPENSATION INSURANCE

A. Definitions:

(1) Certificate of coverage ("certificate"). A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the project.

(2) Duration of the project. Includes the time from the beginning of the work on the project until the contractor's/person's work on the project has been completed and accepted by the governmental entity.

(3) Persons providing services on the project ("subcontractor" in SS406.096.) Includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

B. The contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all employees of the contractor providing services on the project, for the duration of the project.

C. The Contractor must provide a certificate of coverage to the governmental entity prior to being awarded the contract.

D. If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with the governmental entity showing that coverage has been extended.

E. The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

(1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project; and

(2) no later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends daring the duration of the project.

F. The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.

G. The contractor shall notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

H. The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

I. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:

(1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;

(2) provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;

(3) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(4) obtain from each other person with whom it contracts, and provide to the contractor.
- a certificate of coverage, prior to the other person beginning work on the project; and
- a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(5) retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

(6) notify the governmental entity in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

(7) contractually require each person with whom it contracts, to perform as required by paragraphs (1) - (7), with the certificates of coverage to be provided to the person for whom they are providing services.

J. By signing this contract or providing or causing to be provided a certificate of coverage, the contractor is representing to the governmental entity that all employees of the contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

K. The contractor's failure to comply with any of these provisions is a breach of contract by the contractor which entitles the governmental entity to declare the contract void if the contractor does not remedy the breach within ten days after receipt of notice of breach from the governmental entity.

DIVISION 01 – GENERAL REQUIREMENTS

01 11 00 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 SUMMARY OF THE WORK: The general scope of this project includes, but is not limited to furnishing all materials, labor, fees, tools, accessories & equipment to completely perform all sitework, mechanical, electrical, plumbing, & general construction for this project.

1.2 GENERAL REQUIREMENTS: The Drawings represent the finished project & the definition of all project requirements will be provided by combining all of the Drawings. The General Conditions, Supplementary Conditions, & requirements of Division 1 & Division 0 apply to all sections of the specifications. The Contractor shall verify all field conditions which will affect the fabrication of components for new construction prior to the start of construction. Unless otherwise indicated, the drawings do not indicate the method of construction. All work will be provided complete, in the quickest time practical, & in a neat workmanlike manner. Provide any items of work not specifically indicated, but obviously or normally required to completely & properly execute the work. Use adequate numbers of skilled workmen who are thoroughly trained & experienced in the necessary crafts & who are completely familiar with the specified requirements & the methods needed for proper performance of the work.

1.3 GENERAL STRUCTURAL REQUIREMENTS: The Contractor shall take all measures necessary to protect the project during construction, including but not be limited to bracing and shoring of dead loads, construction loads and wind loads. The Contractor will be required to correct at his own expense any subsidence, structural damage or other objectionable conditions caused by his operations.

1.4 BUILDING SYSTEMS COORDINATION: Coordination is required by all trades with the work of all others to insure proper placement of each building system in relation to the others. The drawings & specifications are not intended to depict the exact location of each component. As the party in the field, the Contractor is in the best position to verify that the final placement all systems are coordinated. With the Architect's approval, make minor adjustments as may be required to accomplish a proper fit & coordination between building systems.

1.5 WATERTIGHTNESS: The drawings & specifications are not intended to depict each & every detail. As the party in the field, the Contractor is in the best position to verify that all conditions are completed to provide a watertight building envelope & the Contractor shall be responsible to do so.

1.6 DISCREPANCIES: Issuance of these construction documents (drawings and specifications) contemplates further cooperation among the Owner, the Contractor, and all parties involved in the design. Design and construction are complex, and although the design services have been performed with due care and diligence, perfection cannot be guaranteed. Communication is necessary and any discrepancy shall be reported immediately to the Architect whose interpretation shall be final and shall not be cause for claims for additional costs. Failure to provide written notice to the Architect, or changes made without consent, shall relieve the Owner, Architect & Engineers of responsibility for any consequences. Discrepancies not brought to the Architect's attention prior to acceptance of proposals will be deemed to have been proposed in the more costly manner.

1.7 REGULATORY REQUIREMENTS: All work will be performed in compliance with the latest edition of applicable regulatory requirements. Code requirement will establish the minimum requirements in the absence of direct instructions in the Construction Documents.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 11 16 - WORK BY OTHERS

PART 1 - GENERAL

1.1 ITEMS BY OWNER - Owner to provide material & labor for the following:

A. Construction testing (Except in the event of retesting or failure)

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 OWNER'S RESPONSIBILITIES: Negotiate selection, purchase, and delivery with Vendor. Transmit all pertinent information to Contractor via Architect. Pay for all costs, taxes, and delivery to the Work site. Coordinate delivery times with Contractor. Jointly inspect received products with Contractor. With Contractor's assistance, file shipping and damage claims. Obtain shop drawings. Obtain Special Warranties. Coordinate special training for operation and maintenance.

3.2 CONTRACTOR'S RESPONSIBILITIES: Coordinate delivery times with Owner. Show all Owner furnished products on Progress Schedule. Upon delivery to the Work site, inspect, handle, store, and protect in same manner as required for products purchased by Contractor. Assist Owner with filing shipping and damage claims. Repair or replace items damaged by construction activities.

01 21 00 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED SECTIONS: 00700 General Conditions. See AIA A201 "General Conditions of the Contract for Construction", 1987 Edition. See AIA A201 "General Conditions of the Contract for Construction", 1987 Edition.

1.2 ALLOWANCE AMOUNTS: General Contractor/CMAR to include an allowance in the total contract amount for certain items of work not specified in other sections. These items include the following:

A. PROJECT BETTERMENT & CONTINGENCY ALLOWANCE: $150,000 per Pflugerville Middle School (Project Site).

B. PLANTER BOX REFRESH ALLOWANCE: $10,000 for Pflugerville Middle School.

1.3 RENOVATION CONTINGENCY ALLOWANCE: Cost inclusions in Allowance will be directed by Owner, approved by Architect, and acknowledged by Contractor by means of a Change Order or Construction Change Directive for any costs associated with Concealed or Unknown Conditions. There will be no additional cost inclusions in Contract Sum for allowances otherwise.

1.4 ADMINISTRATION OF ALLOWANCES: Include all Allowances in Contract Sum. List each Allowance separately on Application and Certificate for Payment, the Progress Schedule, Schedule of Values, and any other applicable and appropriate listings. Subdivide each allowance as appropriate and as directed by Architect. Execute partial and final payments pursuant to same procedures as required for all other Subcontractors. At Contract Closeout, credit sums remaining in an allowance to Owner by Change Order.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 23 00 - ALTERNATES

PART 1 - GENERAL

1.1 DESCRIPTION: The Owner reserves the right to accept any or all Alternate Proposals. Base & related alternate items will not be awarded to separate contractors. Bidder may submit a price on any or all alternate items. Alternate bid items are to be stated as an addition or deduction from the base bid total.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 PROPOSAL ALTERNATES: NOT APPLICABLE

ALTERNATE BID ITEM 001:

ADDITION OF ACOUSTIC FELT PANELS IN PFLUGERVILLE MIDDLE SCHOOL GYM. REPLACEMENT OF ACOUSTIC PANELS IN THEATRE ARTS ROOM WITH NEW ACOUSTIC FELT PANELS.

ALTERNATE BID ITEM 002:

IN LIEU OF ACOUSTIC TECTUM PANELS MENTIONED IN BID ALT 001, PROVIDE COST FOR NEW ACOUSTIC FELT PANELS IN THE MIDDLE SCHOOL GYM AND THEATRE ARTS ROOM. BASIS OF DESIGN TO BE WOLF GORDON, GATHER SOLIDS ACOUSTIC PANELS, STANDARD LINE OF COLOR.

01 25 00 - SUBSTITUTIONS PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

B. Individual requirements for submittals are described in other pertinent Sections of the Specifications.

C. Architect provided Substitution Request Form.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for handling requests for substitutions made after award of the Contract. Where a definite product is specified, it is not necessarily the intention to discriminate against other products, but rather to set a definite standard & indicate the quality & capacity of equipment within the class found satisfactory for the Owner's use. Alternate or substitute items shall not deviate in basic construction or function from the specified item. The acceptance of a manufacturer in no way allows the accepted manufacturer to substitute a product that does not conform to the originally specified item. It is incumbent upon the approved manufacturer to provide the item, quality & construction specified.

1.3 DEFINITIONS

A. Definitions in this Article do not change or modify the meaning of other terms used in the Contract Documents.

B. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions. The following are not considered to be requests for substitutions:

1. Substitutions requested during the bidding period, and accepted by Addendum prior to award of the Contract, are included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.

2. Revisions to the Contract Documents requested by the Owner or Architect.

3. Specified options of products and construction methods included in the Contract Documents.

4. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

A. Substitution Request Submittal: The Architect will consider requests for substitution if received within 30 days after date of Notice To Proceed. Requests received more than 30 days after date of Notice To Proceed may be considered or rejected without consideration at the discretion of the Architect.

1. Submit request for substation using CSI Form 1.5, edition June 2004, Substitution Request.

2. Submit request for substitution for consideration electronically. Failure to provide all requested information in the format requested will be grounds for rejection.

3. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.

4. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:

a. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate contractors, that will be necessary to accommodate the proposed substitution.

b. A detailed side-by-side comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements, such as performance, weight, size, durability, and visual effect.

c. Product Data, including Drawings and descriptions of products and fabrication and installation procedures.

d. Samples, where applicable or requested.

e. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. The proposed substitution will not extend the Contract Time.

f. Cost information, including a proposal of the net change, if any in the Contract Sum.

g. The Contractor's certification that the proposed substitution conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.

h. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.

1.5 CONSIDERATION

A. Conditions: The Architect will receive and consider the Contractor's request for substitution when one or more of the following conditions are satisfied, as determined by the Architect. When the Architect approves a substitution, it is assumed that the manufacturer makes a product that is equal or that he will special build one that is equal. If the following conditions are not satisfied, the Architect will return the requests without action except to record noncompliance with these requirements.

1. Extensive revisions to the Contract Documents are not required.

2. Proposed changes are in keeping with the general intent of the Contract Documents.

3. The request is timely, fully documented, and properly submitted.

4. The specified product or method of construction cannot be provided within the Contract Time. The Architect will not consider the request if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.

5. The request is directly related to an "or-equal" clause or similar language in the Contract Documents.

6. The requested substitution offers the Owner a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the Owner must assume. The Owner's additional responsibilities may include compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner, and similar considerations.

7. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.

8. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.

9. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.

10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.

11. Where a proposed substitution involves more than one prime contractor, each contractor shall cooperate with the other contractors involved to coordinate the Work, provide uniformity and consistency, and assure compatibility of products.

B. The Contractor's submittal and the Architect's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.

1.6 ARCHITECTS ACTION

A. Architect's Action: If necessary, the Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. The Architect will notify the Contractor of acceptance or rejection of the substitution within 14 days of receipt of the request, or 7 days of receipt of additional information or documentation, whichever is later.

1. Use the product specified if the Architect cannot make a decision on the use of a proposed substitute within the time allocated.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 26 00 - CONTRACT MODIFICATION

PART 1 - GENERAL

1.1 SUMMARY: This Section specifies administrative and procedural requirements for handling and processing contract modifications.

1.2 OWNER-INITIATED PROPOSAL REQUESTS: The Architect will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications. Proposal requests issued by the Architect are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.

1.3 CONTRACTOR-INITIATED PROPOSALS: When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Architect. Use AIA Document G709 for Change Order Proposal Requests.

1.4 MINOR CHANGES IN THE WORK: The Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract Time, on AIA Form G710, Architect's Supplemental Instructions.

1.5 CONSTRUCTION CHANGE DIRECTIVE: When the Owner and the Contractor disagree on the terms of a Proposal Request, the Architect may issue a Construction Change Directive on AIA Form G714. The Construction Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order. Maintain detailed records on a time and material basis of work required by the Construction Change Directive. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.6 CHANGE ORDER PROCEDURES Reimbursement for change orders will be limited to the actual cost of materials & labor, plus a 10% mark-up to the subcontractor & a 5% mark-up to the General Contractor. If no Subcontractor labor is involved, General Contractor may mark-up 10%. Equipment rental from the Contractor or subcontractor, office overhead & supervision will not be considered for reimbursement. Copies of all receipts for this work will be submitted with the relevant application for payment. A Change Order (AIA G701) or Architect's Field Order (AIA G708) must be issued prior to performing any such work. Work performed without proper authorization will, at the Architect's option, remain without reimbursement to the Contractor or be removed at the Contractor's expense. All Contractor initiated requests for change order will be submitted by Contractor on AIA G701. No extra time or resulting damages will be allowed as a result of time required to evaluate or process change orders.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 29 73 - SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 Arrange schedule of values on or consistent with format of AIA Document G703.

1.2 Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

1.3 Identification: Include the following Project identification on the schedule of values:

A. Project name and location.
B. Name of Architect.
C. Architect's project number.
D. Contractor's name and address.
E. Date of submittal.

1.4 Arrangement:

A. Utilize Table of Contents of this Project Manual. Identify each line item with number and title of major specification Section.

B. Identify site mobilization, bonds and insurance, and all cost for all other General conditions and Division 1 General Requirements.

C. Allowances: Provide separate line items in the Schedule of Values for each Allowance.

D. In case of projects with multiple sites or buildings included under one project, provide a breakdown per site and/or building.

1.5 Format: Format the schedule of values in tabular form with separate columns to indicate the following for each item listed:

A. Related Specification Section
B. Description of the Work
C. Change Orders (numbers) that affect value
D. Dollar value of the following
   1. Labor
   2. Materials

1.6 Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.

1.7 Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

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

1.9 Revise schedule to show any costs againsts allowances charged, with each Application for Payment.

1.10 Submit an updated schedule with each Application for Payment.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.1 SUMMARY

A. This Section specifies management and coordination activities including:

1. Coordination of construction and administrative activities.

2. Ceiling coordination drawings, which include responsibilities for the General Contractor and specific Subcontractors.

3. Bidder-design systems.

4. Meeting requirements.

B. Related Sections:

1. 01 25 00 - SUBSTITUTIONS PROCEDURES

2. 01 26 00 - CONTRACT MODIFICATION

3. 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION.

4. 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND OTHER SUBMITTALS

1.2 GENERAL COORDINATION PROVISIONS

A. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Architect of any error, inconsistency, omission, or apparent discrepancy discovered.

B. Allot time in construction scheduling for liaison with Architect; establish procedures for handling queries and clarifications. Use "Request for Interpretation" form for requesting information.

C. In addition to other specified meetings, hold coordination meetings and preconstruction conferences with personnel and subcontractors to ensure coordination of Work.

D. Coordinate scheduling, submittals, and Work of various Specification sections to avoid conflicts and ensure efficient and orderly sequence of installation of interdependent construction elements.

E. Coordinate Work of various Specification sections having interdependent responsibilities for installation, connection, and operation.

F. Where Bidder-Design systems and building elements are indicated, incorporate documentation of bidder's design into the submittal process and provide all substantiating documentation in a timely manner, including, but not limited to shop drawings, agency submittals and informational submittals as required by the individual technical sections.

G. Verify that characteristics of operating equipment are compatible with building utilities and services.

H. Except as otherwise indicated, conceal pipes, ducts, conduit and wiring in construction. Coordinate locations of fixtures and outlets with finish elements.

I. Make provision to accommodate items scheduled for later installation.

J. Coordinate and utilize Project Record Documents in Closeout Submittals.

K. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of schedules.

2. Installation and removal of temporary facilities.

3. Delivery and processing of submittals.

4. Progress meetings and pre-installation conferences.

5. Project closeout activities.

1.3 REQUEST FOR INTERPRETATION (RFI)

A. When field conditions or Contract Document contents require clarification by the A/E or A/E's sub-consultants, after informal discussion with appropriate design team members determines that clarification is required or confirmation of understanding is needed, a written RFI is to be submitted.

B. Identify the nature and location of each clarification/verification using the RFI form; provide as a minimum the following information:
1. Project name and number;
2. Date;
3. Date response required by;
4. RFI number;
5. Subject;
6. Initiator of the question;
7. Indication of costs, if known or anticipated;
8. Indication of schedule impact;
9. Location on site;
10. Contract drawing reference;
11. Contract specification section and paragraph reference;
12. Descriptive text
13. Recommended solution(s); and
14. Space for reply on same page as questions.

C. Architect's response to RFIs will be made in writing within the time limits agreed upon with the Owner and Contractor or otherwise with reasonable promptness.

D. If no agreement is made concerning the time within which interpretations required of the Architect shall be furnished, then delay shall not be recognized on account of failure by the architect to furnish such interpretations until 15 days after written request is made for them.

E. If Architect is able to respond to a request for interpretation by making specific reference to Drawing sheet or Specification Section, Contractor shall reimburse Owner for charges of Architect and Architect's Consultants for performing review services for the Contractor.

F. The Contractor shall be responsible for development and weekly maintenance of an RFI log. The log will be transmitted to the Owner and Architect at each construction progress meeting.

1.4 MECHANICAL AND ELECTRICAL COORDINATION

A. Contractor shall:

1. Resolve all "tight", restricted, or inaccessible conditions involving Work of various Sections in advance of installation.

2. Before Work proceeds in these areas, prepare ceiling coordination drawings in accordance with paragraphs below.

3. Provide supplementary drawings and additional Work necessary to resolve problematic conditions.

1.5 CEILING COORDINATION DRAWINGS

A. General Requirements for Drawings:

1. Ceiling coordination drawings are not shop drawings and are not to be submitted to Owner or Architect for approval. Subcontractors shall be responsible to participate and prepare coordination drawings that illustrate their contract area of responsibility.

2. Ceiling coordination drawings shall show relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in space provided or to function as intended.

3. Prepare composite ceiling coordination drawings to scale of 1/4" = 1’-0” or larger; show ceilings, building structure above equipment, elevator shafts, duct shafts, mechanical systems, and electrical systems in relationship with each other. Include dimensions where critical.

4. Prepare ceiling coordination drawings utilizing different colors to illustrate work of separate trades.

5. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are of importance to efficient flow of Work affecting one or more trades.

6. Locate drilled inserts and anchors to avoid structural reinforcements and maintain clearances as required by the Structural Drawings.

7. Mechanical Systems: Include, but do not necessarily limit to following:

a. Proposed locations of piping, ductwork, dampers, equipment, and terminations for HVAC, plumbing and fire sprinkler systems.

b. Proposed locations for access panels.

c. Clearances for installing and maintaining insulation.

d. Clearances for servicing and maintaining equipment.

8. Electrical Systems: Include, but do not necessarily limit to following:

a. Major raceway systems (i.e., cable tray, etc).

b. Panels.

c. Conduit and junction boxes for all electrical and fire alarm systems, including all low voltage systems.

d. Lighting fixtures.

e. Fire alarm devices.

f. Clearances for servicing equipment.

B. Documentation Process:

1. HVAC subcontractor shall initiate the coordination drawings and create the electronic drawing files with the appropriate background for the complete coordination process. Backgrounds shall include reflected ceiling plan, beam soffit elevations, ceiling heights, roof openings, and other items to be installed.

2. Each subcontractor shall incorporate their information via an added drawing layer on the background and transmit to the next trade. Drawings shall include accurate location, size, and elevation for each element to be installed by subcontractor. Each subcontractor shall be responsible to fully coordinate their work with the preceding trades (or "cloud" a possible conflict area for further review). The sequence of adding information and transmitting the drawings shall be as follows:

    a. HVAC Subcontractor

    b. Plumbing Subcontractor

    c. Fire Sprinkler Subcontractor

    d. Electrical Subcontractor.

3. Upon completion by all trades, drawings shall be transmitted back to the HVAC subcontractor for printing and issuance back to the Contractor. These final drawings will then be copied and used as a review tool and upon resolution of all conflicts, a construction aid. Final changes shall be made by the appropriate subcontractor and transmitted back to the HVAC subcontractor. HVAC subcontractor shall be responsible for issuing and transmitting back to the Contractor the final version of the coordination drawings.

4. Subcontractors shall coordinate with other affected trades to prevent conflicts and cooperate in making reasonable modifications in layouts as needed to coordinate systems in space available.

5. Subcontractors shall notify Contractor of remaining conflicts and other coordination issues requiring resolution prior to commencing construction in each affected area.

6. If necessary, Contractor will call meetings with subcontractors to resolve any remaining conflicts on the ceiling coordination drawings. Architect shall be invited to attend these meetings.

C. Contractor shall submit certification to Architect and Owner that coordination documents have been completed and coordination issues have been identified and resolve prior to commencing construction in each affected area. Certification shall be signed and dated by Contractor and each subcontractor indicating that:

1. All related conditions have been checked with all trades.

2. No apparent conflicts exist.

3. The requirements of the Contract Documents have been complied with.

4. All elements of a complete installation are included.

D. Contractor shall make coordination documents available in field office for review by Architect and Owner during entire period of construction.

E. BIM Option: At Contractor's option, Contractor and Subcontractors may utilize Building Information Management (BIM) software to accomplish the requirements of ceiling coordination drawings.

1.6 BIDDER-DESIGN SYSTEMS

A. Where indicated in the Contract Documents, provide design, engineering and fabrication for the complete installation of building system or assembly included in the Bidder's Cost of the Work. Include all accommodations for complete installation of system, including coordination with each trade forming a

component part of the system or assembly as required to meet the design and performance criteria, and as required to maintain the integrity of the building design aesthetic. Architect will be the judge for acceptance of Bidder-Design systems.

B. For systems identified in the Drawings as Deferred Submittals, submit documents per Sections on Submittal Procedures.

C. Coordinate in field with affected trades for proper relationship to Work based on Project conditions.

D. Notify Architect of conflicts and other coordination issues requiring resolution prior to commencing construction in each affected area.

1.7 COORDINATION OF SPACE

A. Coordinate use of Project space and sequence of installation of plumbing, fire protection, mechanical and electrical Work and as required by Ceiling Coordination Drawings, above. Follow routings shown for pipes, ducts, and conduits as closely as practicable, with due allowance for available physical space; make runs parallel with building lines. Utilize space efficiency to maximize accessibility for other installations, for maintenance, and for repairs.

B. Layout of plumbing, fire protection, mechanical, and electrical systems, equipment, fixtures, piping, ductwork, conduit, specialty items, and accessories indicated on Drawings is diagrammatic. Variations in alignment, elevation, and details required to avoid interference and satisfy architectural and structural limitations are not necessarily shown.

C. Prior to installation of material and equipment, review and coordinate Work with Architectural and Structural Drawings to establish exact space conditions. Where available space is inadequate or where reasonable modifications are not possible, request information from Architect before proceeding.

D. Coordinate installation to prevent conflicts and cooperate in making, without extra charge, reasonable modifications in layout as needed.

E. Provide clear access to control points, valves, strainers, control devices, and specialty items of every nature related to such systems and equipment to obtain maximum head room. Provide adequate clearances as necessary for operation and maintenance.

1.8 COORDINATION OF CONTRACT CLOSEOUT

A. Coordinate completion and clean up of Work in preparation for Substantial Completion.

B. To minimize disruption of Owner's activities after occupancy of premises, coordinate access to site by various trades for correction of defective Work and for correction of Work not in accordance with Contract Documents.

1.9 GENERAL MEETING REQUIREMENTS

A. Schedule meetings and conferences throughout progress of Work; each session scheduled, administered, and presided by entity indicated. Requirements for meetings and conferences include:

1. Prepare agenda for each conference and meeting. Provide agenda to all attendees minimum 24 hours before meeting is scheduled to begin.

2. Distribute written notice to participants 7 days in advance of scheduled date.

3. Make physical arrangements.

4. Record minutes and attendees; include significant proceedings and decisions.

5. Distribute minutes electronically within 5 days after each meeting.

6. Distribute minutes to each participant and to entities affected by decisions made at meeting.

7. Distribute minutes to Architect and Owner.

8. Maintain in field office one copy of agenda and minutes for each conference and meeting.

B. Representatives attending meetings shall be qualified and authorized to act on behalf of entity each represents.

C. Architect and professional consultants may attend meetings to ascertain that Work is consistent with Contract Documents.

D. Owner may be present at meetings and may propose agenda items.

1.10 PRECONSTRUCTION CONFERENCE

A. Schedule preconstruction conferences no later than 7 days prior to commencement of Work. Convene at Project site.

B. Attendees:

1. Architect and professional consultants; Contractor presides over meeting and is responsible for minutes.

2. Owner.

3. Major subcontractors & trade foremen.

4. Others as appropriate.

C. Minimum Agenda:

1. Administrative and procedural issues:

2. Designation of key personnel.

3. Review and clarify responsibilities of parties to contract.

4. Communications procedures.

5. Review of proposed subcontractors, materials, equipment, and products.

6. Application for payment procedures; schedule of values, proposal requests, change orders.

7. Critical work sequencing; long lead time items and scheduling of full size mock-ups.

8. Submittal and construction progress schedules.

9. Submittal requirements; complete, correct, and timely submittals; scheduled dates.

10. Procedures for submitting product data, shop drawings, samples, and other submittals.

11. Product options and substitutions procedures to extent indicated in other Sections.

12. Procedures for requests for interpretations (RFI), minor changes, field decisions, construction change directives, proposal requests, change orders, and filing claims.

13. Procedures for testing and inspection, including timely notification, including review of preliminary testing at time of meeting.

14. Responsibilities and limitations of authority of testing laboratories; distribution of reports.

15. Procedures for maintaining Project Record Documents.

16. Schedule for progress meetings.

D. Site mobilization and utilization:

1. Use of premises; office and storage areas, including Owner's requirements.

2. Temporary utilities and services.

E. Interior Floor Slab Requirements

1. Effects of construction schedule, concrete work, timing of building enclosure, and temporary facilities such as construction drying; remediation options.

1.11 PROGRESS MEETINGS

A. Schedule weekly meetings as necessary by progress of Work; day, location, and time to be determined. Convene at Project site.

B. Attendees:

1. Contractor; presides over meeting and is responsible for minutes.

2. Subcontractors as appropriate.

3. Owner, Architect, and professional consultants may attend as appropriate.

4. Others as appropriate to agenda.

C. Minimum Agenda:

1. Approval of minutes of previous meeting.

2. Work progress since previous meeting:

a. Current activities.

b. Critical activities.

3. Deviations from schedule.

4. Field observations, problems, conflicts, and decisions.

5. Deficiencies:

a. Identification of items.

b. Status of correction.

6. Requests for Information (RFIs):

a. Review of RFI log.

b. Status of clarification and discipline responsible.

7. Status of change order proposals (COPs).

8. Changes and modifications:

a. Status of change orders.

b. Pending changes.

c. Pending claims and disputes.

d. Clarification decisions of Architect or Owner.

9. Problems and conflicts which impede planned progress.

10. Construction Progress and Submittal Schedules:

a. Off-site fabrication and delivery schedules.

b. Effect of proposed changes on construction progress schedule and coordination.

c. Submittal schedules, status of submittals, and effect on construction progress schedule.

d. Corrective measures to regain projected schedule.

11. Planned progress during succeeding Work period.

12. Adequacy of work forces.

13. Coordination between elements of Work.

14. Maintenance of Project Record Documents.

15. Other business relating to progress of Work.

D. Meeting Minutes:

1. Include column to indicate who is required to take action and date action is to be completed. Each of these items requiring action will be carried in subsequent minutes of meeting as "old business" until noted as "resolved."

2. As minimum, separate into following categories:

a. Old business.

b. New business.

c. Work progress.

d. Deficiencies.

e. RFIs.

f. Proposed changes.

g. Schedules.

h. Submittals.

i. Other business, including events to be accomplished by next meeting.

1.12 PREINSTALLATION CONFERENCES

A. Schedule pre-installation conferences required in individual Specification sections. Convene at Project site prior to commencing Work of the section.

B. Attendees:

1. Project superintendent; presides over meeting and is responsible for minutes.

2. Subcontractor (installer, applicator, or erector).

3. Material or equipment supplier.

4. Manufacturers' representative.

5. Others directly affecting, or affected by the work.

6. Testing agency (if necessary).

7. Subcontractors as appropriate.

8. Owner, Architect, and professional consultants may attend as appropriate.

9. Others as appropriate to agenda.

C. Minimum Agenda:

1. Access to work and conditions of proper installation.

2. Conditions of installation, such as substrates, existing and surrounding conditions, and environmental conditions.

3. Conditions detrimental to installation.

4. Preparation procedures, including protection of adjacent work.

5. Verify installers' receipt and understanding of installation instructions.

6. Review submittals, installation procedures, and sequence.

7. Review coordination with other work.

8. Evaluate delivery schedule and Construction Progress Schedule.

9. Observe sample installation.

10. Required protection procedures.

11. Observe actual installation areas.

1.13 CLOSEOUT CONFERENCE

A. Schedule Project Closeout conference prior to requesting Substantial Completion.

B. Attendees:

1. Contractor; presides over meeting and is responsible for minutes.
2. Major subcontractors.
3. Owner, Architect, and professional consultants may attend as appropriate.
4. Others as appropriate to agenda.

C. Minimum Agenda:

1. Start-up of facilities and systems.
2. Testing, adjusting, and balancing.
3. System demonstration and observation.
4. Operation and maintenance instructions for the owner's personnel.
5. Contractor's inspection of work.
6. Contractor's preparation of an initial "punch list."
7. Procedure to request Architect inspection to determine date of substantial completion.
8. Completion time for correcting deficiencies.
9. Inspections by authorities having jurisdiction.
10. Certificate of occupancy and transfer of insurance responsibilities.
11. Partial release of retainage.
12. Preparation for final inspection.
13. Closeout submittals:
    a. Project Record Documents.
    b. Operating and maintenance documents.
    c. Operating and maintenance materials.
    d. Warranties and bonds.
    e. Affidavits.
14. Final application for payment.
15. Final cleaning.
16. Contractor's demobilization of site.
17. Maintenance.

PART 2 PRODUCTS

2.1 NOT APPLICABLE

PART 3 EXECUTION

3.1 NOT APPLICABLE

01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 DESCRIPTION: The work progress schedule requirement is established to ensure adequate planning, scheduling, management, and execution of the work by the Contractor, and to enable the Owner to evaluate work progress and make contract time adjustments. The work specified in this section consists of submitting a contract schedule, monthly updates, four-week schedules for progress meetings, and a final as-built schedule. The planning, scheduling, management, and execution of the work in accordance with the contract is the responsibility of the Contractor.

1.2 SUBMITTALS: Except as modified in this section, the procedures required by Section 01 33 23, Submittal Procedures, shall be observed.

A. Submit a statement of CPM capability within 10 days following the Owner's delivery of the fully executed contract, stating that the Contractor has in-house capability, or if not, naming a scheduling subcontractor to be employed by the Contractor to prepare the schedules required. Include with this submittal scheduler's name and list of qualifications demonstrating that the scheduler has performed scheduling for projects of the same magnitude and complexity of this project. Failure to provide this information may result in disqualification of the proposed scheduler.

B. At the preconstruction meeting, submit for review by the Owner, a work progress schedule meeting the requirements below.

C. Within 5 days of receipt of review comments from the Owner, incorporate the Owner's comments, finalize, and resubmit the work progress schedule for Owner approval.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 CONTRACT SCHEDULE SUBMITTAL REQUIREMENTS

A. The contract schedule submittal shall be developed in Critical Path Method (CPM) format using Primavera Project Management (P6)□, Microsoft Project□, or pre-bid approved equal. It shall include:

1. A CPM Network Diagram:

a. Time-scaled (by week, starting Monday), grouped by work areas and sorted by early start dates.

b. The diagram shall be clear, neat, and legible. Each sheet shall contain a title block, a revision block, project name and contract number, Contractor, type of tabulation (initial, update, project status), project duration, scheduled substantial completion date, and a legend explaining the basic notation, terms, and codes used.

c. Identify critical path activities, including critical paths to contract milestone dates.

d. Activity durations shall not exceed 10 days. Should an activity require more than 10 days, it shall be subdivided to define appropriate activities. The Owner may approve using longer durations on such non-construction activities as the procurement and fabrication of materials and equipment.

e. All activity descriptions shall clearly define the location and type of work to be performed.

f. Show schedule critical deliverables (i.e., permits, submittals, etc).

g. Schedule fabrication and delivery of all materials and equipment.

h. Scheduled start or completion dates imposed on the schedule by the Contractor shall be consistent with contract milestone dates and other restrictions. Contract milestone dates are the work area starting and completion dates and shall be clearly identified and connected to the appropriate activities.

i. Schedule shall include contingencies for normal weather delays and seasonal periods of heavy traffic flow.

j. Schedule shall list resources required to perform work within durations shown. Indicate the estimated quantities of work anticipated where applicable.

k. Failure to include any element of work required for performance of this contract shall not excuse the Contractor from timely completion of work required to achieve the contract milestones, notwithstanding the acceptance of the contract schedule submittal.

l. The contract duration shall be the duration specified in the contract documents and awarded by the Owner.

m. Schedules extending beyond the contract completion date will not be accepted.

n. Schedules showing the work completed in less than the contract duration may be found by the Owner to be impractical, requiring resubmittal.

o. Schedules showing the work completed in less than the contract duration, if practical to the Owner, shall be considered to have Float. Float is the time between the scheduled duration of the work and the contract duration. Float is a resource available to both the Contractor and the Owner, and is non-compensable. Acceptance of a schedule showing the work completed in less than the contract duration shall not constitute a change to the contract completion date.

p. Schedule shall be coded by activity identifying shift work, restricted hours, electrical work, etc.

q. All Owner-required activities shall be shown as part of the critical path.

2. Narrative: The contract schedule submittal shall include a “stand-alone” document that conveys, in writing:

a. The Contractor’s schedule assumptions; constraints; critical path/critical activities and why they are critical; permit requirements; coordination required with the Owner, other contractors, utilities or any other parties; and long lead delivery items.

b. Basis for resources. Include anticipated quantities of work for each activity and the production rates used in determining resource allocation for activities.

3. The contract schedule submittal shall include a compact disc containing a copy of the project files. All data shall be written to disk via the Primavera Project Management (P6)®, Microsoft Project® Backup, or pre-bid approved equal utility.

4. The final, accepted work progress schedule shall be the baseline from which changes in duration and logic shall be determined and shall be the basis for planning, scheduling, managing and executing the work.

3.2 MONTHLY UPDATE REPORT

A. No later than 30 days after acceptance of the contract schedule and monthly thereafter, the Contractor shall submit a Monthly Update Report.

B. The Monthly Update Report shall consist of:

1. An updated CPM Network Diagram of the contract schedule, format as previously specified herein, and a compact disc containing an exact copy of the submittal. All data shall be written to disk via the Primavera Project Management (P6), Microsoft Project Backup, or pre-bid approved equal utility.

2. A narrative which identifies the work actually completed and reflects the progress along the critical path in terms of days ahead of or behind the contract milestone dates. Specific requirements of the narrative are as follows:

a. If the Monthly Update Report indicates an actual or potential delay to the contract milestone dates, the narrative shall identify the problem, cause, and the activities affected.

b. The narrative shall also address the following:

c. A detailed change in duration of any activity and/or logic changes to activities which were performed in a sequence different from the accepted contract schedule.

d. Activities proposed to be added to or deleted from the contract schedule.

e. Identification of executed change orders.

3. Incorporation of all Owner-accepted schedule revisions.

4. The mutually agreed-to Monthly Update Report shall be the basis for evaluating the Contractor's progress. Documents in a single Monthly Update Report shall have the same data date irrespective of the dates of preparation of the individual documents.

5. If the latest completion time for any required contract milestone date as indicated by the current Monthly Update Report does not fall within the time allowed by the contract, the Contractor shall prepare and submit a plan to recover the lost time.

C. The Owner may call for more frequent status meetings (weekly, biweekly, etc.), at no additional cost to the Owner, at which the Contractor shall provide the required information.

D. Review of Monthly Update Report:

1. The Owner will review the monthly report and respond within 7 days after receipt.

2. If necessary, the Contractor shall resubmit within 7 days of receipt of review comments.

E. Applications for Payment: Submission of monthly schedule updates shall accompany applications for progress payments, and will be a condition of payment.

3.3 PROGRESS MEETING SCHEDULES: During on-site construction, at each progress meeting, the Contractor shall provide a one week back and three week forward activity schedule. This schedule shall be in Gantt bar chart form and include, but not be limited to, reporting of the following:

A. Detailed listing of specific work items, duration of work items, actual work hours, resources to be used in accomplishing work items, work area closing and opening dates and times, operational impacts, and other pertinent items.

B. The weekly progress meeting schedules shall be submitted not less than 24 hours in advance of the scheduled progress meeting.

3.4 SCHEDULE MONITORING: If the progress of critical path activities falls behind the time lines shown on the latest, accepted version of the CPM schedule by 7 days, the Contractor shall document the means he will employ to bring work back on schedule.

3.5 CONTRACT SCHEDULE REVISIONS: Proposed revisions to the accepted contract schedule shall be submitted to the Owner on a separate fragnet for review and acceptance prior to incorporation into the current contract schedule. This fragnet must clearly outline the impact of the revision within the context of the contract schedule. Each proposed revision shall be submitted with the following minimum components:

A. A CPM Network Diagram showing revised and affected activities.

B. An Activity Report and Predecessor/Successor Report for all revised and affected activities.

3.6 CONTRACT TIME ADJUSTMENTS: Float is not for the exclusive use or benefit of either the Owner or the Contractor. Extensions of time for contract performance as specified in the contract will be granted only to the extent that time adjustments to the affected work items exceed the total float time along the affected path(s) of the contract schedule current at the time of the delay.

3.7 AS-BUILT SCHEDULE AND DOCUMENTATION: Within 15 days after substantial completion, the Contractor shall submit for the Owner's acceptance a final, as-built CPM Network Diagram.

3.8 SUSPENSION OF PAYMENTS: If the Contractor fails at any time to submit a schedule or update as noted above, the Owner reserves the right to suspend progress payments wholly or in part until the Contractor submits a schedule which is accepted by the Owner.

01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND OTHER SUBMITTALS

PART 1 - GENERAL

1.1 DESCRIPTION

A. The purpose of Contractor submittals is to demonstrate for those portions of the Work for which submittals are required, the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents. Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents.

B. By approving and submitting submittals, the Contractor/CM represents that the Contractor/CM has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information within such submittals with the requirements of the Work and of the Contract Documents.

C. The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals. The Architect's review is only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

1.2 GENERAL REQUIREMENTS

A. All submittals to be made by Electronic Submission in PDF format.

B. Submittals shall be initiated by the trade contractor, submitted to the Contractor/CM for review & approval, & then submitted to the Architect for action.

C. Submit submittal register & receive architects concurrence prior to any other submissions.

D. Schedule submittals to allow adequate time for review and resubmission, if necessary.

E. Submittals may be returned without action if made out of sequence or schedule, or are missing required information.

F. All food service submittals must be submitted at once with extra time for review.

G. All Doors, Frames & Storefront must be submitted at one time.

H. Please allow extra review time for the following submittals, as they will likely take longer than two weeks:
1. Structural Steel
2. Metal Building
3. Hollow Core Planks
4. Rebar
5. MEP
6. Food Service
7. Doors & Storefront
8. Casework

1.3 PROJECT INITIATION SUBMITTALS - Prior to the submission of any application for payment, submit the following:
A. Executed Agreement & any amendments
B. Project Construction schedule
C. Schedule of values
D. Insurance certificates
E. Performance & payment bonds
F. Project Submittal Schedule
G. Final list of all trade contractors/ subcontractors

H. Sub-contractor & superintendent qualifications
I. Pre-construction conference agenda & schedule
J. Schedule of projected rain days per month

1.4 SCHEDULING

A. Prepare & submit to Architect for approval a submittal register showing all required Shop Drawings, Product Data, Samples. Schedule item submission date and projected approval date as required to not cause delay to construction schedule.

B. Schedule and submit concurrently submittals covering component items forming a system or items that are interrelated. Include certifications to be submitted with the pertinent drawings at the same time. No delay damages or time extensions will be allowed for time lost in late submittals. An additional 10 calendar days will be allowed and shown on the register for review and approval of submittals for food service equipment, structural steel & HVAC control systems.

C. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential resubmittal of requirements.

D. Submittals called for by the contract documents will be listed on the register. If a submittal is called for but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Architect does not relieve the Contractor of supplying submittals required by the contract documents but which have been omitted from the register or marked "N/A."

E. Re-submit register and annotate monthly by the Contractor with actual submission and approval dates. When all items on the register have been fully approved, no further re-submittal is required.

F. Carefully control procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

1.5 SHOP DRAWINGS: Present in a clear and thorough manner. Title each drawing with Project name and number; identify each element of shop drawings by reference to sheet number and detail, schedule, or other appropriate identification of Contract Documents. Identify field dimensions; show relation to adjacent products or elements of the Work; show critical features.

1.6 PRODUCT DATA: Submit only pages which are pertinent; mark product data to specifically identify only pertinent products; reference each to Specification Section and Article number. Show standards, performance characteristics, and capacities; wiring and piping diagrams; controls; component parts; finishes; dimensions; and required clearances. Modify manufacturer's standard schematic drawings and diagrams to supplement standard information and to provide information specifically applicable to the Work. Delete information not applicable.

1.7 COLOR SELECTION SAMPLES: Color selection samples for all exterior items and all interior items requiring such will be submitted together at one time, no longer than 45 days after notice to proceed.

1.8 SAMPLES: Submit full range of manufacturer's standard finishes of the actual product, except when more restrictive requirements are specified, indicate colors, textures, and patterns for Architect selection. Submit samples to illustrate functional characteristics of products, including parts and attachments.

1.9 MANUFACTURER'S PUBLISHED INSTRUCTIONS: Furnish manufacturer's published instructions for storage, preparation, assembly, installation, start-up, adjusting, balancing, and finishing.

1.10 SUBMITTAL REQUIREMENTS: Apply Contractor/CM's approval certification, certifying to review, verification of products, field dimensions, quantities, field construction criteria, and coordination of information with requirements of Work and Contract Documents. Coordinate submittals into logical groupings to facilitate interrelation of the several items: 1. Finishes which involve Architect selection of colors, textures, or patterns. 2. Associated items which require correlation for efficient function or for installation.

1.11 HARDCOPY SUBMITTAL: As requested by Architect, submit opaque reproductions of shop drawings, product data and manufacturer's published instructions. Submit number of samples specified in individual Specifications Sections. Identify Project by title and number. Identify Work and product by Specifications section and Article number.

1.12 RESUBMITTALS: Make re-submittals under procedures specified for initial submittals; identify changes since previous submittal.

1.13 CONTRACTOR'S EXAMINATION: Review submittals prior to delivery to Architect; verify quantities, field measurements, field construction criteria, assembly and installation requirements, manufacturer's catalog numbers, and conformance of submittal with requirements of Contract Documents. Sign or initial each sheet of shop drawings and product data, and each sample label to certify coordination and compliance with requirements of Contract Documents. Notify Architect in writing at time of submittal of any deviations from requirements of Contract Documents. Do not fabricate products or begin work which requires submittals until return of submittal with Architect acceptance. Contractor will receive, review, approve & forward multiple copies of product submittals & shop drawings to the Architect in a timely manner. Do not proceed with manufacture prior to review of shop drawing. Architect's review is only for general conformance with design concept & Contract Documents' requirements. Contractor is responsible for confirming & correlating dimensions, & construction techniques. Architect's review & action does not allow deviation from the requirements of the Contract Documents, does not relieve Contractor, Subcontractor or supplier from complying with every aspect of the Contract Documents, nor from responsibility for errors & omissions in submittals.

1.14 ARCHITECT'S REVIEW: Allow 14 days for Architect's review of each submittal. Daily allowance is time in possession of Architect and exclusive of delivery from and to Contractor and exclusive of resubmissions. Architect's review is limited to aesthetics, architectural design, and information contained in Contract Documents. Similarly, Consultant's review is limited to design relating to its specific field of expertise and its information contained in Contract Documents. Architect's or Consultant's review is neither a verification of Contractor's examination nor a substitution of Contractor's responsibilities. Architect or Consultant may inform Contractor of any conspicuous errors on a submittal without prejudice to being held harmless to Contractor's examinations and responsibilities.

1.15 DISTRIBUTION: Duplicate as necessary and distribute reproductions of shop drawings, products data, manufacturer's instructions, and samples, which bear Architect stamp of approval, to Project site, Subcontractors, suppliers, and other entities requiring information.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 35 00 - SPECIAL PROJECT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS: Drawings Specifications or other conditions of the contract, apply to this section

1.2 PUBLISHED REGULATIONS: The Contractor shall at all times abide by the published City ordinance, regulations, laws, etc. of the Owner and all amendments, including those that may be issued during the duration of the Contract. Particular attention is called to those regulations pertaining to circulation, noise, sanitation, safety and behavior.

1.3 OUTAGES: When required during any occupancy of the buildings by the Owner, utility and service outages shall be kept to a minimum and will be permitted only with written advance approval of the Owner. Outages that will, in the opinion of the Owner, severely affect building occupants must be completed during off-hours or on weekends or holidays at no additional cost to the Owner. Work on off-hours, weekends and/or holidays shall comply with the Owner's policies and the City ordinances and comply with any special permits as issued by the City. Contractor shall give sufficient advance notice to the Owner of a requirement for utility outages to permit Owner to make necessary arrangements with those affected. All requests for outages shall be made in writing to the Owner a minimum of seven (7) calendar days in advance of the interruption in service. Service outages (electrical, water, sewerage, telephone, TV cable, gas, or any other public or private utility serving the Owner's property) shall not be interrupted during normal business hours. In the event the Work requires disruption of service(s), the Contractor shall schedule this work for non-business hours at no additional cost to the Owner. Necessary utility and service outages affecting off-site properties and persons shall be arranged with the related utilities and public authorities at the sole expense of the Contractor. Requests for outages will not be considered unless they include an identification of all areas which will be affected by the proposed outage. Contractor shall be responsible for all costs of the Owner arising from outages occurring without approval of the Owner, including accidental outages.

1.4 MAINTENANCE OF BUILDING SECURITY: The Contractor shall make every effort to maintain the security of the construction site. The Contractor shall cooperate with the Owner in particularly sensitive areas where security and special safeguards are required.

1.5 PROTECTIVE NIGHT LIGHTING: The Contractor shall provide adequate outdoor lighting to illuminate security zones, staging, stockpiles, trenches, projections, and the like, with the intent of protecting the materials and construction from vandalism, theft, and to protect the public from injury and property damage. Such lighting shall be in addition to temporary power and lighting required under the Temporary Facilities Section. Cost for installing protective night lighting shall be included in the Contractor's contract price for the work.

1.6 PUMPING AND DRAINING: The Contractor shall take over the responsibility for site drainage in areas under his control upon entering the premises and shall maintain such drainage during the life of this Contract as approved by the Owner, and/or Architect, and so as not to adversely affect the adjacent areas. Legally remove by pumping, draining or bailing any water which may accumulate or be found on the site within the contract limits where excavating and grading are to be done, whether from snow, rain, surface flow, springs, ground water, backing up of drains or sewers, or from any other cause, always, and under any circumstances and contingencies that may arise. Form all pump wells, sumps, dams, flumes or other necessary works to keep trenches and excavations entirely clear of water. The Contractor shall have at all times upon the site, sufficient and satisfactory pumping machinery. Pump wells or well points and underdrains as may be required, shall be provided where needed to properly handle the water. The final trimming excavation shall not be done until dewatering means are in place and in operation. Water from trenches and excavations shall be disposed of in accordance with applicable law so as to not cause injury to public health nor to public or private property, nor to the existing work or to the work completed or in progress, nor to the surfaces of roads, walks, and streets, nor cause any interference with the use of the same by the public. Newly made and existing concrete and masonry shall be protected from injury resulting from dewatering work by protective coverings.

1.7 BROKEN GLASS: The Contractor shall be responsible for all broken, cracked, and/or scratched glass (new and existing) damaged during the construction period and shall replace all such defective glass before final acceptance.

1.8 HOURS OF WORK: The contractor, in preparing all schedules and in undertaking all work, shall respect the following time restrictions: Monday to Saturday-7:00AM to 7:00PM-Holidays excluded. All work schedules are subject to City ordinances. Other time may apply as requested and approved by the Owner.

1.9 EMERGENCY PHONE CONTACT LIST: Each contractor shall provide an emergency phone number contact list for their firm and all subcontractors. List to be kept current during the entire construction period.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 41 00 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 All work will be performed in compliance with the latest edition of applicable regulatory requirements. Code requirement will establish the minimum requirements in the absence of direct instructions in the Construction Documents. Applicable regulatory requirements include the following:

A. International Building Codes.

B. National Electric Code.

C. NFPA 101 - Life Safety Code.

D. Texas Accessibility Standards.

E. Americans with Disabilities Act.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 41 33 - ACCESSIBILITY REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL: Comply with facility requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) 2010 & the Texas Accessibility Standards (TAS) 2012. In addition to any attributes of new construction or alterations indicated in other sections or in the drawings, comply with the requirements of this section.

1.2 WALKWAY REQUIREMENTS: Minimum clear width – 36 inches. Running slope - 1:20 maximum. Cross slope - 1:50 maximum. Change in level from 0.25” to 0.50” requires 1:2 beveled edge. Change in level greater than 0.50" requires ramp. Surface to be firm, stable & non-slip. Walkway grates to have no gap greater than 1/2 inch, long dimension perpendicular to dominant direction of travel.

1.3 ACCESSIBLE PARKING: Locate as shown, as close as practical to accessible entry. Standard space is 96" wide with 60" side aisle. Van space is 96" wide with 96" side aisle. Two spaces may share an aisle. Maximum slope 1:50. Provide designating signage.

1.4 CURB RAMPS: Provide curb ramp wherever an accessible route crosses a curb. Maximum slope 1:12 & a minimum of 36" wide. Do not project into traffic lanes. Surface to be either truncated dome per 705 of TAS (required in TXDOT ROW) or grooves 1/8" deep, 1/4" to 3/4" wide, & 3/4" to 2" apart.

1.5 RAMPS: Provide ramps wherever slope of accessible route exceeds 1:20, as shown. Maximum slope 1:12 if rise greater than 6", with transitions flush. Minimum width 36". Maximum rise between landings is 30 inches. Provide a minimum 1.25” diameter to maximum 2” inch diameter handrail both sides, 34"-38" above ramp surface. Surface firm, stable & slip-resistant. A curb or barrier shall be provided that prevents the passage of a 4 inch diameter sphere, where any portion of the sphere is within 4 inches of the finish floor or ground surface.

1.6 STAIRWAYS: Risers shall be 4 inches high minimum and 7 inches high maximum. Treads shall inches deep minimum. Open risers are not permitted. Provide a minimum 1.25” diameter to maximum 2” inch diameter handrail both sides, 34"-38" above stair nosings. At top of stair flight, extend handrail 12 inches minimum from the first riser nosing. At bottom of stair flight, handrails shall extend at least equal to one tread depth beyond the last riser nosing.

1.7 ENTRIES: At all entries, 5' approach on either side of entry to have a slope no greater than 2%.

1.8 DOORS: Provide accessible doors at accessible entrances & into accessible space, as shown. Provide clear opening of 32" minimum, with the door 90 deg open (face of door to stop). Maximum threshold height - 1/2". Provide lever operated, push-type, or U-shaped handles. Adjust new & existing interior doors with closers to open with less than 5 lbf force. Adjust interior & exterior doors to close from 90 degrees open to 12 degrees from latch in no less than 5 seconds.

1.9 DRINKING FOUNTAINS: Accessible drinking facilities shall be provided, as shown. Spout heights at 36" and 40”. Spout height, location, controls, operation & clearances meet ADAAG and TAS.

1.10 WATER CLOSETS: Provide at least one (1) accessible WC for both men & women, as shown. Seat height to be from 17" to 19". Provide grab bars. Flush controls on open side & dispenser mounting location on side wall side to meet ADAAG and TAS.

1.11 TOILET STALL: Provide at least one (1) accessible toilet stall for both men & women, as shown. Minimum dimensions - 36" wide x 69" deep, with 32" outward swinging door. Provide a 42" grab bar at side wall and a 36” grab bar at rear wall.

1.12 URINALS: Provide accessible urinal(s) with elongated rim at 17" above floor. Provide required clear floor space & flush controls to meet AADAG and TAS.

1.13 LAVATORIES & MIRRORS: Provide accessible lavatory & mirror for both men & women toilet rooms, as shown. Lavatory to be less than 34" high & extend at least 17" from wall, with knee clearance below; provide insulation on drain & hot water pipes. Controls must be operable by the handicapped. Mirrors must be mounted with bottom 40" high maximum.

1.14 GRAB BARS: Provide 42" minimum length grab bars at side walls and 36” minimum grab bars at rear walls shown. Bar diameter 1.5"; space from bar to wall 1.5". Mounting to support 250 lb.

1.15 CHILD MOUNTING HEIGHTS: Refer to TAS Table 604.9 for water closets and toilet compartments mounting heights for children’s use.

1.16 SIGNAGE: Provide signs which designate permanent rooms that may be used by the public, complying with ADAAG and TAS requirements for braille, character, height, finish & contrast. Directional signs to functional spaces shall comply with requirements for character, height, finish & contrast (directories are exempt). Designate accessible parking, loading, entrances, & toilet facilities with the international symbol of accessibility. Provide sign at non-accessible entries directing to accessible entries. Room signs shall be on the wall at the latch side of the door, 60" AFF to centerline.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 42 13 - ABBREVIATIONS AND ACRONYMS

PART 1 - GENERAL

1.1 Abbreviations used generally follow the Uniform Drawing System (UDS) as published by the Construction Specifications Institute (CSI). In the case of any discrepancy or question on the part of the Contractor, written request for clarification should be submitted immediately to the Architect. The Architect's resulting interpretation of abbreviations is final & binding on all parties involved in the work.

PART 2 - PRODUCTS: NOT APPLICABLE

PART 3 - EXECUTION: NOT APPLICABLE

01 45 23 - TESTING AND INSPECTING SERVICES

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED: The Owner shall provide or contract for, independently of the contractor, the inspection services, the testing of construction materials, and the verification testing services necessary for acceptance of the facility by the district.

1.2 DUTIES OF THE GEOTECHNICAL ENGINEER: Attend preconstruction meeting. Review available soils information performed for the project. Monitor the subgrade and fill pad preparation below the building area and the method of construction of this pad. Perform specified testing and sampling of earthwork materials. Ascertain compliance of materials and pad preparation with the requirements of the Contract Documents. Perform additional tests or monitoring of the work as deemed necessary by the Geotechnical Engineer, the Architect, Engineer, the Contractor or the Owner. Submit written report of each test and inspection performed with a copy directly to the Structural Engineer in accordance with Section 01 31 00. Submit a statement with a copy directly to the Structural Engineer at the completion of the related part of the project summarizing the services performed and the compliance/noncompliance of the test results or items monitored with regard to the specified requirements. Statement shall be signed and sealed by the Geotechnical Engineer.

1.3 ADDITIONAL RESPONSIBILITIES OF THE CONTRACTOR: Cooperate with geotechnical engineer's representatives, provide access to Work and to manufacturer's operations and provide adequate facilities as required for storage and curing of test samples. Secure and/or deliver to the geotechnical engineer adequate quantities of representational samples of materials proposed to be used and which require testing. Provide copies of product's test reports as required. Furnish one complete set of project plans and specifications to the Geotechnical Engineer to facilitate inspections and testing and to provide direction on the storage and curing of test samples. Assist geotechnical engineer in obtaining and handling samples at the Project site or at the source of the product to be tested. Notify geotechnical engineer sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests. Submit a written statement with a copy directly to the Structural Engineer at the completion of the Project stating that to the best of his knowledge, the Structural Portion of the Project has been built in accordance with these plans and specifications. Employ and pay for the services of the geotechnical engineer to perform additional inspections, sampling and testing required:

A. For the Contractor's convenience.

B. When initial tests indicate Work does not comply with Contract Documents.

1.4 SPECIFIC TESTS, INSPECTIONS AND METHODS REQUIRED: Geotechnical engineer shall provide the following soil testing/monitoring of the subgrade and fill pad:

A. A minimum of at least one laboratory test for moisture-density relationship of the subgrade material. Test in accordance with Texas Highway Department Test Procedure TEX 113E.

B. A minimum of at least one laboratory test for moisture-density relationship of the select fill. Test in accordance with Texas Highway Department Test Procedure TEX 113-E.

C. One field density test each 2,000 SF for subgrade below building for "Density Control of Compaction" in accordance with latest ASTM D-2922 and ASTM D-3017.

D. One field density test per lift each 2,000 SF for select fill below building for "Density Control of Compaction in accordance with latest ASTM D-2922 and ASTM D-3017.

E. Pier inspection & monitoring.

F. At least one field density test per lift for each 200 linear feet of select fill within plumbing trenches for "Density Control of Compaction" in accordance with latest ASTM D-2922 and ASTM D-3017. Fill material below the pipe and up to 12" above the pipe need not be tested for compaction.

G. Any other tests specifically required by other sections of the specifications.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 50 00 - TEMPORARY FACILITIES

PART 1 - GENERAL

1.1 CONSTRUCTION UTILITIES: Construction utilities are to be provided by the Contractor.

1.2 TEMPORARY JOB SIGN: Provide a 4'x 8'x 5/8" plywood job sign with professionally printed and attached full color vinyl graphics, securely mounted on 4x4 posts, the design & location of which will be provided by the Architect. This sign will be erected within 2 weeks after the contract date & prior to any request for payment. No other construction signage will be allowed.

1.3 FIELD OFFICE: Provide & maintain a clean, secure, weathertight, temporary field office with electrical & phone service during the course of the project; cell phone use is acceptable. A complete set of Construction Documents & daily project log will be kept there at all times.

1.4 TRASH RECEPTACLES: Provide trash receptacles on the job site. Each trade is responsible for their own clean-up, to be performed daily. If not performed in a timely manner the Owner may have this work done separately & charged against the contract amount.

1.5 PORTABLE TOILET: Provide & properly maintain a portable toilet on site for the use of the workers. Workers shall use portable toilet facilities provided by the General Contractor / CM and shall not use other onsite restroom facilities or those of the project under construction.

1.6 PERIMETER SECURITY: Provide perimeter security to control access to the site by means of appropriate fencing, gates & barricades.

1.7 CONSTRUCTION ENTRY: Provide rock entry as required by governing jurisdiction & to limit mud from adjacent roadways.

1.8 SURVEYING & LAYOUT MEASUREMENT: Contractor is responsible for setting any and all other elements necessary to the Work. Means and methods for those settings are at selection of Contractor. Set appropriate and accurate locating devices as required for the Work.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 73 29 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS: Drawings Specification or other conditions of the contract, apply to this Section.

1.2 SUMMARY: This Section specifies administrative and procedural requirements for cutting and patching. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.3 SUBMITTALS: Cutting and Patching Proposal: Where approval of procedures for cutting and patching is required before proceeding, submit a proposal describing procedures well in advance of the time cutting and patching will be performed and request approval to proceed. Include the following information, as applicable, in the proposal:

A. Describe the extent of cutting and patching required and how it is to be performed; indicate why it cannot be avoided.

B. Describe anticipated results in terms of changes to existing construction; include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.

C. List products to be used and firms or entities that will perform Work.

D. Indicate dates when cutting and patching is to be performed.

E. List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.

F. Where cutting and patching involves addition of reinforcement to structural elements, submit details and engineering calculations to show how reinforcement is integrated with the original structure.

G. Approval by the Architect to proceed with cutting and patching does not waive the Architect's right to later require complete removal and replacement of a part of the Work found to be unsatisfactory.

1.4 QUALITY ASSURANCE:

A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would reduce their load carrying capacity or load deflection ratio.

1. Obtain approval of the cutting and patching proposal before cutting and patching the following structural elements:
   a. Foundation construction.
   b. Bearing and retaining walls.
   c. Structural concrete.
   d. Structural steel.
   e. Lintels.
   f. Structural decking.
   g. Stair systems.
   h. Miscellaneous structural metals.
   i. Equipment supports.
   j. Piping, ductwork, vessels and equipment.

B. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.

1. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
   a. Shoring, bracing, and sheeting.

b. Primary operational systems and equipment.
c. Air or smoke barriers.
d. Water, moisture, or vapor barriers.
e. Membranes and flashing.
f. Fire protection systems.
g. Noise and vibration control elements and systems.
h. Control systems.
i. Communication systems.
j. Conveying systems.
k. Electrical wiring systems.

1.5 Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner.

A. If possible retain the original installer or fabricator to cut and patch the following categories of exposed Work, or if it is not possible to engage the original installer or fabricator, engage another recognized experienced and specialized firm:

PART 2 - PRODUCTS

2.1 MATERIALS: Use materials that are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 - EXECUTION

3.1 INSPECTION: Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.

C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Take all precautions necessary to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them.

3.3 PERFORMANCE:

A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.

1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.

B. Cutting: Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review proposed procedures with the original installer; comply with the original installer's recommendations.

1. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

3. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.

4. Comply with requirements of applicable Sections of Division 2 where cutting and patching requires excavating and backfilling.

5. By pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated or abandoned. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by passing and cutting.

C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.

2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

3.4 CLEANING: Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

01 77 00 - PROJECT CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 WARRANTY: The Contractor will warranty all equipment, materials & workmanship for a period of at least 1 year after completion, unless the manufacturer or specification provides for a longer warranty period. The Contractor will make prompt repairs or replacement of any defective work detected during that period at no charge to the Owner. Within 30 days prior to the end of this warranty period, the Contractor will either arrange & hold an on-site review of the project with the Architect & Owner's representative or extend his warranty for another 1 year period. All warranty periods begin upon substantial completion.

1.2 RECORD DRAWINGS: Upon completion the Contractor will provide the Owner with two set of record prints with additions & variations shown in red. Remove Architects and Engineers seals from record drawings.

1.3 OPERATING INSTRUCTIONS: On completion, the Owner will be provided with all instructions & warranties in a loose leaf binder, & the Contractor will demonstrate the operation of all equipment. Contractor will record attendance of training sessions with a sign-in sheet and submit to Architect.

1.4 PUNCH LIST COMPLETION: There will be thirty (30) consecutive calendar days allowed to complete punch list items after substantial completion, plus any legitimate time extensions addressed in the general conditions.

1.5 SUBSTANTIAL COMPLETION SUBMISSIONS: Prior to substantial completion inspection, submit all required items, including but not necessarily limited to the following:

A. Written request for inspection (minimum 24hrs prior).
B. Punch list.
C. Final cleaning & touch-up.
D. Excess material stock.
E. Test Reports.
F. No asbestos affidavit.
G. Final Completion Submissions: Prior to final completion, submit all required items, including but not necessarily limited to the following:
H. Completion of punch list items, except as waived by Owner.
I. Written request for final inspection.
J. AIA G706 (Contractor's affidavit of all debts paid).
K. AIA G706A (Contractor's waiver or release of liens).
L. Subcontractor waiver or release of liens.
M. Final application for payment.
N. Removal of temporary facilities.
O. Warranties.
P. Instruction/maintenance manual.
Q. Consent of Surety to final payment.
R. As-built drawings.

1.6 DIGITAL SUBMISSION

A. All closeout documents to be submitted in hardcopy as well as scanned and delivered in pdf format.

B. Include manufacturer’s software as needed.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

01 78 23 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS: Drawings Specification or other conditions of the contract, apply to this section.

1.2 SUMMARY: This Section includes the following:

A. Format and content of manuals.

B. Schedule of submittals.

1.3 RELATED SECTIONS

A. 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND OTHER SUBMITTALS

B. 01 45 23 - TESTING AND INSPECTING SERVICES

C. Individual Specifications Sections: Specific requirements for operation and maintenance data.

1.4 QUALITY ASSURANCE: Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.5 FORMAT

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

B. 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.

C. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

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

E. Text: Manufacturer's printed data, or typewritten data on 20-lb paper.

F. Drawings:

1. Provide sketches and small drawing up to 11" x 17" in size with reinforced punched binder tab. Bind in with text.

2. Larger drawings to be bound together for each system or product.

G. 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, Construction Manager, SubContractor, 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 SubContractor/ Contractors 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 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.

1.6 CONTENTS, EACH VOLUME

A. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect, Subconsultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

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

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

D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

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

F. Warranties and Bonds: Bind in copy of each.

1.7 MANUAL FOR MATERIALS AND FINISHES

A. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Provide information for re-ordering custom manufactured products.

B. Instructions for Care and Maintenance: Include manufacturer’s recommendations for cleaning agents and methods, precautions against detrimental 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 Requirements: 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.

F. The O&M Manual will include all of that O&M data referenced or addressed in divisions 2 to 16 Sections.

1.8 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.

B. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed or by label machine.

C. Include color-coded wiring diagrams as installed.

D. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

E. Maintenance Requirements: Include routine procedures and guide for troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

F. Provide servicing and lubrication schedule, and list of lubricants required.

G. Include manufacturer's printed operation and maintenance instructions.

H. Include Sequence of Operation by controls manufacturer.

I. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

J. Provide control diagrams by controls manufacturer as installed.

K. Provide Contractor's coordination drawings with color-coded piping diagrams as installed.

L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

N. Include test and balancing reports.

O. Additional Requirements: As specified in individual Product Specification Sections.

P. Provide a listing in Table of Contents for design data, with tabbed indexed and space for insertion of data.

1.9 SUBMITTALS

A. 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.

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

C. Submit one copy of completed volumes 45 days prior to Substantial Completion. This copy will be reviewed and returned (after final inspection), with Architect's comments. Revise content of all document sets as required prior to final submission.

D. Submit two sets of revised final volumes in final form within ten days after final inspection. Final release of retainage by the Owner is contingent, among other things, upon receipt and review by the Architect of all O&M manuals due the Owner by the Contractor. Final payment will not be made until such time as all manuals have been submitted and approved.

1.10 DIGITAL SUBMISSION

A. All closeout documents to be submitted in hardcopy as well as scanned and delivered in PDF format.

B. Include manufacturer's software as needed.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

DIVISION 02 – EXISTING CONDITIONS

02 40 20 - ALTERATION OF EXISTING CONDITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS: Drawings Specification or other conditions of the contract, apply to this section.

1.2 ALTERATIONS: This Section describes coordination between the demolition, stabilization and restoration, and finishes of the work of this Contract. Cutting, fitting and patching of all existing and new construction as required for the work of all trades is specifically required to be performed by the Contractor, or subcontractor(s) selected by the Contractor as most appropriately responsible for the material or assembly to be altered, as required for the proper execution of the work of all trades. Preparation of existing surfaces to receive finishes to be applied under various Sections of the Specification is described herein. It is the responsibility of the Contractor to ensure that this preparation is properly completed prior to application of finishes under such other Sections.

1.3 RELATED WORK SPECIFIED IN OTHER SECTIONS: Principal classifications of work related to the work of this Section are specified to be performed under the Sections of the Specifications. Refer to the Sections for description of the extent and nature of the indicated work, and for coordination with related trades. It is the responsibility of the Contractor to fully coordinate the work of this Section with that of all other trades to complete the work contained within the contract documents (contract, contract drawings and specifications).

1.4 INTENT: It is the intent of this Section to require close coordination between operations involving the removal and modification of various portions of the existing structure and operations applying new construction and finishes to the structure. Coordination is required to ensure proper fit between the several parts of the work, without damage to existing construction to remain, resulting in substantial construction and systems that are fully operational in accordance with the Contract Documents. In addition, this coordination is particularly important in this Project for the preservation and restoration of portions of the building having historical significance. This coordination is the responsibility of the General Contractor for this Contract. It is the intent of this Section that to the extent it is inconsistent with any other terms and provisions of the Contract Documents, the Contractor and/or Subcontractors shall provide the better quality or greater quantity of work.

1.5 DEMOLITION: Demolition operations shall be performed under the Demolition Sections, as applicable, subject to provisions herein. Contractor shall be responsible for all shoring, bracing and other support and protection of existing construction and new work required to maintain integrity of existing structure and work in progress during all demolition operations. Include all platforms, barriers, weather protection, lighting, warning signs, and all other means necessary for proper protection of property, personnel, the public and other construction. Designate individuals responsible for the supervision and coordination of this protective work who have appropriate training and experience to whom the Owner, Program Manager and Architect make no objection. Plan and carry out demolition operations with utmost care to prevent excessive vibration, settlement or other structural damage, or damage to existing finish materials to remain. Protect the work against fire, including setting and enforcing safety rules in the operation of welding and cutting torches and other heat-producing equipment and activities, and maintaining fire protection equipment. Consult with the Owner and local fire officials regarding required protection and procedures.

1.6 PREPARATION AND CLEANING OF EXISTING SURFACES: Prepare and clean existing surfaces to remain as required for installation of new materials, equipment and finishes specified in other specification sections. For all surfaces scheduled or otherwise indicated to be refinished, clean off materials such as old paint, rust, adhesive, dirt, oil, wax, sealers and all other materials that would prevent proper adhesion of new finish materials, or would bleed through, texture or otherwise adversely affect the new finish. Clean existing surfaces to receive new finishes thoroughly, removing all soilage and applied material, of whatever nature, that would impair bond of new finish to such surface, or would show through new finishes as a different color or texture than other surfaces of the same type. Use scrapers, brushes, sanding, wire pads, detergents, chemical cleaning solutions, solvents, light sand blasting, or other materials and equipment appropriate for surfaces being cleaned. Use all materials in strict conformance to the manufacturer's instructions and recommendations. Dispose of all cleaning solutions and/or solvents in accordance with applicable law. Maintain Material Safety Data Sheets (MSDS) onsite for all products being used onsite in accordance with OSHA regulations. Surfaces to receive paint finishes shall be cleaned to meet requirements of paint materials applied, and

shall be smooth and even in appearance and to touch. Sand and feather all paint edges to eliminate visible layering or chipping related to multiple coats of paint. It is not required that all adherent paint or other existing finish be removed completely, so long as surfaces are in proper condition to receive new finish to satisfaction of the Architect.

A. Submit proposed cleaning materials, and methods proposed for their use, to Architect for review before proceeding. Clean test areas for Architect's review before proceeding with complete cleaning operations.

B. After cleaning is completed, brush or rinse surfaces to remove cleaning agents or residue, and leave surfaces ready for installation of new finishes.

C. In addition to preparation work specified above, clean existing finished surfaces that will remain exposed-to-view and unaltered in the finished work.

PART 2 - PRODUCTS

2.1 NOT APPLICABLE

PART 3 - EXECUTION

3.1 NOT APPLICABLE

02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY: This Section includes the following:

A. Demolition and removal of selected portions of a building.

B. Demolition and removal of selected site elements.

C. Patching and repairs.

1.3 DEFINITIONS

A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the Owner's property.

B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Owner's designated storage area.

C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in the same locations or in locations indicated.

D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Architect, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

1.4 MATERIALS OWNERSHIP: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at the Contractor's option.

1.5 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections, for information only, unless otherwise indicated.

B. Proposed dust-control measures.

C. Proposed noise-control measures.

D. Schedule of selective demolition activities indicating the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.

2. Interruption of utility services.

3. Coordination for shutoff, capping, and continuation of utility services.

4. Use of elevator and stairs.

5. Detailed sequence of selective demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.

6. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

7. Locations of temporary partitions and means of egress.

E. Inventory of items to be removed and salvaged.

F. Inventory of items to be removed by Owner.

G. Photographs or videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by selective demolition operations.

1.6 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed selective demolition Work similar to that indicated for this Project.

B. Regulatory Requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.7 PROJECT CONDITIONS

A. Owner will occupy portions of the building immediately adjacent to selective demolition area. Conduct selective demolition so that Owner's operations will not be disrupted. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

B. Owner assumes no responsibility for actual condition of buildings to be selectively demolished. Conditions existing at time of inspection for proposal purpose will be maintained by Owner as far as practical.

C. Asbestos: It is not expected that asbestos will be encountered in the Work. If any materials suspected of containing asbestos are encountered, do not disturb the materials. Immediately notify the Architect and the Owner. Asbestos will be removed by Owner before start of Work.

D. Storage or sale of removed items or materials on-site will not be permitted.

1.8 SCHEDULING: Arrange selective demolition schedule so as not to interfere with Owner's on-site operations.

1.9 WARRANTY: Existing Special Warranty: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 REPAIR MATERIALS: use repair materials identical to existing materials.

A. Where identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.

B. Use materials whose installed performance equals or surpasses that of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

D. When unanticipated mechanical, electrical, or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Architect.

E. Survey the condition of the building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective demolition.

F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES

A. Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Do not interrupt existing utilities serving occupied or operating facilities, except when authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to governing authorities. Provide not less than 72 hours' notice to Owner if shutdown of service is required during changeover.

B. Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services serving building to be selectively demolished.

1. Arrange to shut off indicated utilities with utility companies.

2. Where utility services are required to be removed, relocated, or abandoned, provide bypass connections to maintain continuity of service to other parts of the building before proceeding with selective demolition.

3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit after bypassing.

3.3 PREPARATION

A. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with selective demolition operations.

B. Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

C. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around selective demolition area.

1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.

2. Protect existing site improvements, appurtenances, and landscaping to remain.

3. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.

4. Provide temporary weather protection, during interval between demolition and removal of existing construction, on exterior surfaces and new construction to ensure that no water leakage or damage occurs to structure or interior areas.

5. Protect walls, ceilings, floors, and other existing finish work that are to remain and are exposed during selective demolition operations.

6. Cover and protect furniture, furnishings, and equipment that have not been removed.

D. Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.

E. Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of building to be selectively demolished. Strengthen or add new supports when required during progress of selective demolition.

3.4 SELECTIVE DEMOLITION

A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition work above each floor or tier before disturbing supporting members on lower levels.

2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. To minimize disturbance of adjacent surfaces, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.

3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.

4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.

5. Maintain adequate ventilation when using cutting torches.

6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.

7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.

8. Locate selective demolition equipment throughout the structure and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

9. Dispose of demolished items and materials promptly. On-site storage or sale of removed items is prohibited.

10. Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.

B. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain, using power-driven masonry saw or hand tools; do not use power-driven impact tools.

C. Remove resilient floor coverings and adhesive according to recommendations of the Resilient Floor Covering Institute's (RFCI) "Recommended Work Practices for the Removal of Resilient Floor Coverings" and Addendum.

D. Remove air-conditioning equipment without releasing refrigerants.

3.5 PATCHING AND REPAIRS

A. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.

B. Patching is specified in Division 1 Section "Cutting and Patching."

3.6 CLEANING

A. Sweep the building broom clean on completion of selective demolition operation.

Change filters on air-handling equipment on completion of selective demolition operations.

DIVISION 05 – METALS

05 40 00 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 GENERAL: Provide cold formed metal framing, metal studs, and accessories as needed for a complete and proper installation. Comply with pertinent recommendations contained in "Specifications for Metal Lathing and Furring" published by the Metal Lath/Steel Framing Association.

1.2 SUBMITTALS: Submit promptly complete product information on this section to the Architect for review. Include joist layout & sizes selected from the manufacturer's span table & actual loading conditions. Sizes indicated are minimums; manufacturer shall verify & modify per required spans. Manufacturers' recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.3 RELATED DOCUMENTS: The drawings, General Conditions, Supplementary Conditions, and requirements of Division 1 apply to work of this section.

1.4 PERFORMANCE REQUIREMENTS: Calculate structural characteristics of cold-formed metal framing according to AISI's "Load and Resistance Factor Design Specification for Cold-Formed Steel Structural Members" and the Center for Cold-Formed Steel Structures (CCFSS) Technical Bulletin, Vol. 2, No. 1, February 1993 "AISI Specification Provisions for Screw Connections." Design framing systems to provide for movement of framing members without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change (range) of 120 deg F.

PART 2 - PRODUCTS

2.1 GENERAL: The size, spacing & gauges indicated are stated as minimums & should be increased as required by the manufacturer's recommendations for the conditions shown.

2.2 MANUFACTURERS: Subject to compliance with requirements, manufacturers offering cold-formed metal framing that may be incorporated in the Work include, but are not limited to, the following:

A. Dale Industries, Inc.
B. Dietrich Industries, Inc.
C. Incor Plant Dale Industries.
D. Unimast, Inc.
E. United States Steel.

2.3 METAL RAFTERS & JOISTS: Manufacturer's standard C-shaped steel joists of web depths indicated, with lipped flanges, & otherwise as required by structural performance. Exceed minimum requirements of Fed Spec QQ-S-698 and Fed Spec QQ-S-775d, class d, sized for the item and use intended; hot-dip galvanized or factory pre-painted. Provide from the following minimum sizes:

A. MEZZANINE JOIST

Joist Member	Description	Size	Gauge	Flange
10"TDW16	TDW-5 TRADEREADY® JOIST-50K	10"	16	2"

2.4 METAL STUDS: Meet or exceed minimum requirements of manufacturer & Fed Spec QQ-S-698 and Fed Spec QQ-S-775d, class d, for the item and use intended. Studs either hot-dip galvanized or factory pre-painted. Use only one manufacturer throughout the Work, unless otherwise shown on the Drawings or specifically approved in advance by the Architect. Provide from the following minimum sizes:

A. INTERIOR DRYWALL PARTITIONS

Product Code	SSMA Code	Gauge	KSI	Width	Length	Punched/Unpunched	Spacing
STN	600S125-18	25	33	6"	9-4	Punched	16"
STE	600S125-33	20	33	6"	9-4	Punched	16"

B. TALL PARTITION

Product Code	SSMA Code	Gauge	KSI	Width	MaxLength	Punched/Unpunched	Spacing
STE	600S125-33	20	33	6"	16-6	Unpunched	16"

C. MEZZANINE SUPPORTING PARTITIONS (16" OC)

Product Code	SSMA Code	Gauge	KSI	Width	MaxLength
CSJ3	600S162-33	20	33	6"	9' 4"
CSW3	600S200-33	20	33	6"	9' 4"

D. EXTERIOR BACKUP WALL

Product Code	SSMA Code	Gauge	KSI	Width	MaxLength	Product Code	SSMA Code
CSJ3	600S162-33	20	33	6"	9' 4"	CSJ3	600S162-33
CSW3	600S200-33	20	33	6"	9' 4"	CSW3	600S200-33

2.5 FURRING - Minimum 1" wide 25 ga (.019) "Z", resiliant channel or hat channel at 24" OC maximum spacing.

2.6 FRAMING ACCESSORIES: Fabricate steel-framing accessories of the same material and finish used for framing members, with a minimum yield strength of 33,000 psi. Provide accessories of manufacturer's standard thickness and configuration.

2.7 ACCESSORIES: Provide all accessories including, but not necessarily limited to, tracks, clips, anchors, fastening devices, sound attenuation pencil rods and resilient clips, and other accessories required for a complete and proper installation, and as recommended by the manufacturer of the steel studs used.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed. Correct condition detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION: Accurately layout partition and wall lines from the dimensions shown on the Drawings. Install metal studs and accessories in strict accordance with the manufacturer's recommendations as approved by the Architect, anchoring all components firmly into position. Align partition and wall assemblies to a tolerance of one in 200 horizontally and one in 500 vertically.

3.3 BRACING: Provide diagonal bracing & supports to structure as necessary to control movement & deflection.

3.4 COORDINATION: Space members as required for compliance with pertinent regulations, to give proper support for the covering material, and as indicated on the Drawings. Coordinate and provide required backing and other support for items to be mounted on the finished covering. Coordinate requirements for pipes, structure and other items designed to be housed within the partition and wall systems.

3.5 LEVELING: By use of the specified grout, or by other means approved by the Architect, provide continuous solid bearing under floor runner members of steel stud partitions and walls. Level in a manner to provide uniform interface with ceilings and other overhead construction.

05 73 00 – STAINLESS STEEL METAL RAILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes stainless-steel ornamental railings.

B. Related Sections include Division 05 Section “Pipe and Tube Railings” for railings fabricated from pipe and tube components.

1.2 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide railings capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Handrails:

a. Uniform load of 50 lbf/ ft. applied in any direction.

b. Concentrated load of 200 lbf applied in any direction.

c. Uniform and concentrated loads need not be assumed to act concurrently.

2. Top Rails of Guards:

a. Uniform load of 50 lbf/ ft. applied in any direction.

b. Concentrated load of 200 lbf applied in any direction.

c. Uniform and concentrated loads need not be assumed to act concurrently.

3. Infill of Guards:

a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft..

b. Infill load and other loads need not be assumed to act concurrently.

B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.3 SUBMITTALS

A. Product Data: For railings assembled from standard components, grout, anchoring cement, and paint products.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other Work.

1. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Samples: For each exposed finish required.

D. Maintenance Instructions: Provide manufacturer’s maintenance and cleaning.

E. Warranty: Provide manufacturer’s effective from completion of work.

1.4 QUALITY ASSURANCE

A. Product Options: Information on Drawings and in Specifications establishes requirements for system's aesthetic effects and performance characteristics. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design: Design is based on HDI Railing Systems Circum Round series. Subject to compliance with requirements, provide named product or comparable product approved by the Architect.

2.2 METALS

A. Brackets, Flanges, and Anchors: Same metal and finish as supported rails, unless otherwise indicated.

B. Stainless Steel:

1. Tubing: ASTM A 554, Grade MT 304.

2. Pipe: ASTM A 312/A 312M, Grade TP 304.

3. Castings: ASTM A 743/A 743M, Grade CF 8 or CF 20.

4. Plate and Sheet: ASTM A 666, Type 304.

2.3 MISCELLANEOUS MATERIALS

A. Fasteners: Provide concealed fasteners, unless exposed fasteners are standard for railings indicated.

1. Stainless-Steel Components: Type 304 stainless-steel fasteners.

2. Dissimilar Metals: Type 304 stainless-steel fasteners.

B. Anchors: Provide chemical or torque-controlled expansion anchors, fabricated from corrosion-resistant materials with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and equal to four times the load imposed when installed in concrete, as determined by testing per ASTM E 488.

2.4 FABRICATION

A. General: Fabricate railings to comply with design, dimensions, and details indicated, but not less than that required to support structural loads.

B. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

C. Mechanical Connections: Connect members with concealed mechanical fasteners and fittings.

D. Form changes in direction by bending or by inserting prefabricated elbow fittings.

E. Form curves by bending in jigs to produce uniform curvature; maintain cross section of member throughout bend without cracking or otherwise deforming exposed surfaces.

F. Close exposed ends of hollow railing members with prefabricated end fittings.

G. Provide wall returns at ends of wall-mounted handrails, unless otherwise indicated.

H. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work, unless otherwise indicated.

2.5 FINISHES

A. Stainless Steel: Directional Satin No. 4 Finish.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation.

1. Set posts plumb within a tolerance of 1/16 inch in 3 feet.

2. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.

B. Anchor posts to metal surfaces as indicated using fittings designed and engineered for this purpose.

C. Attach handrails to wall with wall brackets.

For steel-framed partitions, fasten brackets to steel framing or concealed steel reinforcements using self-tapping screws of size and type required to support structural loads.

DIVISION 09 – FINISHES

09 05 16 – SUBSURFACE PREPARATION FOR FLOOR FINISHES

PART 1 - GENERAL

1.1 DESCRIPTION: This section specifies subsurface preparation requirements for areas to receive the installation of applied and resinous flooring. This section includes removal of existing floor coverings, testing concrete for moisture and pH, remedial floor coating for concrete floor slabs having unsatisfactory moisture or pH conditions, floor leveling and repair as required.

1.2 RELATED DOCUMENTS: The drawings, General Conditions, Supplementary Conditions, and requirements of Division 1 apply to work of this section.

A. 09 30 13 - CERAMIC TILING
B. 09 65 19 - RESILIENT TILE FLOORING
C. 09 68 13 - TILE CARPETING

1.3 NOTIFICATION FOR INSPECTION: Schedule an inspection with Architect prior to work on scope addressed in this section.

1.4 SUBMITTALS: Submit manufacturer's product data and installation instructions.

A. Written approval confirming product compatibility with subfloor material manufacturer and the flooring manufacturer
B. Product Data:
   1. Moisture remediation system
   2. Underlayment Primer
   3. Cementitious Self-Leveling Underlayment
   4. Cementitious Trowel-Applied Underlayment (Not suitable for resinous floor finishes)
C. Test Data:
   1. Moisture test and pH results performed by a qualified independent testing agency or warranty holding manufacturer's technical representative.

1.5 DELIVERY AND STORAGE

A. Deliver materials in containers with labels legible and intact and grade-seals unbroken.
B. Store material to prevent damage or contamination.

1.6 APPLICABLE PUBLICATIONS

A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in text by basic designation only.
B. ASTM International(ASTM):
   1. D638-14(2014).....Standard Test Method for Tensile Properties of Plastics
   2. D4259-18(2019).....Standard Practice for Preparation of Concrete by Abrasion Prior to Coating Application.
   3. C109/C109M-20b(2020)....Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens
   4. 7234-19(2020).....Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers
   5. E96/E96M-16(2016).....Standard Test Methods for Water Vapor Transmission of Materials
   6. F710-1e1(2020).....Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
   7. F1869-16a.....Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
   8. F2170-19a(2020).....Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes
   9. C348-20(2020).....Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars

10. C191-19(2020).....Standard Test Method for Time of Setting of Hydraulic Cement by Vicat Needle

PART 2 - PRODUCT DATA

2.1 MOISTURE REMEDIATION COATING

A. System Descriptions:

1. High-solids, epoxy system designed to suppress excess moisture in concrete prior to an overlayment. For use under resinous products, VCT, tile and carpet where issues caused by moisture vapor are a concern.

B. Products: Subject to compliance with applicable fire, health, environmental, and safety requirements for storage, handling, installation, and clean up.

C. System Components: Verify specific requirements as systems vary by manufacturer. Verify build up layers and installation method. Verify compatibility with substrate. Use manufacturer's standard components, compatible with each other and as follows:

1. Liquid applied coating:

a. Resin: epoxy.

b. Formulation Description: Multiple component high solids.

c. Application: Per manufacturer's written installation

requirements.

d. Thickness: minimum 10 mils

D. Material Vapor Permeance: Application shall achieve a permeance rating of less than 0.1 perm in accordance with ASTM E96/E96M.

E. Maximum RH requirement: 100% testing in accordance with ASTM F2170.

Property	Test	Value
Tensile Strength	ASTM D638	4,400 psi
Volatile Organic Compound	SCAMD Rule 1113	25 grams per liter
Limits (V.O.C.)	(Ammended 02/05/2016)	
Permeance	ASTM E96	0.1 perms
Tensile Modulus	ASTM D638	1.9X105 psi
Percent Elongation	ASTM D638	12%
Cure Rate	Per manufacture's Data	4 hours Tack free with 24hr recoat

		window
Bond Strength	ASTM D7234	100% bond to concrete failure

2.2 CEMENTITIOUS SELF-LEVELING UNDERLAYMENT

A. System Descriptions:

1. High performance self-leveling underlayment resurfacer. Single component, self-leveling, cementitious material designed for easy application as an underlayment for all types of flooring materials. It is used for substrate repair and leveling.

B. Products: Subject to compliance with applicable fire, health, environmental, and safety requirements for storage, handling, installation, and clean up. Gypsum-based products are unacceptable.

C. System Characteristics:

1. Wearing Surface: smooth

2. Thickness: Per architectural drawings, ranging from feathered edge to 1", per application. Applications greater than 1" require additional 3/8" aggregate to mix or as recommended by manufacturer.

D. Underlayment shall be calcium aluminate cement-based, containing Portland cement. Gypsum-based products are unacceptable.

E. Compressive Strength: Minimum 4100 psi in 28 days in accordance with ASTM C109/C109M.

F. Flexural Strength: Minimum 1000 psi in 28 days in accordance with ASTM C348

G. Dry Time: Underlayment shall receive the application of moisture insensitive tile in 6 hours, floor coverings in 16 hours, and resinous flooring in 3-7 days.

H. Primer: compatible and as recommended by manufacturer for use over intended substrate

I. System Components: Manufacturer's standard components that are compatible with each other and as follows:

1. Primer:

a. Resin: copolymer

b. Formulation Description: single component ready to use.

c. Application Method: Squeegee and medium nap roller.

d. All puddles shall be removed, and material shall be allowed to dry, 1-2 hours at 70F/21C.

e. Number of Coats: (1) one.

2. Grout Resurfacing Base:

a. Formulation Description: Single component, cementitious self- leveling high-early and high-ultimate strength grout.

b. Application Method: colloidal mix pump, cam rake, spike roll.

i Thickness of Coats: Per architectural scope, 1" lifts.

ii Number of Coats: More than one if needed.

c. Aggregates: for applications greater than 1inch, require additional 3/8" aggregate to mix

Property	Test	Value
Compressive Strength	ASTM C109/C109M	2,200 psi @ 24 hrs 3,000 psi @ 7 days
Initial set time Final Set time	ASTM C191	30-45 min. 1 to 1.5 hours
Bond Strength	ASTM D7234	100% bond to concrete failure

2.3 CEMENTITIOUS TROWEL-APPLIED UNDERLAYMENT (NOT SUITABLE FOR RESINOUS FLOOR FINISHES)

A. Underlayment shall be calcium aluminate cement-based, containing Portland cement. Gypsum-based products are unacceptable.

B. Compressive Strength: Minimum 4000 psi in 28 days

C. Trowel-applied underlayment shall not contain silica quartz (sand).

D. Dry Time: Underlayment shall receive the application of floor covering in 15-20 minutes.

2.4 MINIMUM REQUIREMENTS FOR FLOOR PREPARATION

A. 09 30 13 - CERAMIC TILING (1 bag per 150 square feet)
B. 09 65 19 - RESILIENT TILE FLOORING (1 bag per 250 square feet)
C. 09 68 13 - TILE CARPETING (1 bag per 500 square feet)

PART 3 - EXECUTION

3.1 ENVIRONMENTAL REQUIREMENTS

A. Maintain ambient temperature of work areas at not less than 16 degree C (60 degrees F), without interruption, for not less than 24 hours before testing and not less than three days after testing.

B. Maintain higher temperatures for a longer period of time where required by manufacturer's recommendation.

C. Do not install materials when the temperatures of the substrate or materials are not within 60-85 degrees F/ 16-30 degrees C.

3.2 SURFACE PREPARATION

A. Existing concrete slabs with existing floor coverings:
1. Conduct visual observation of existing floor covering for adhesion, water damage, alkaline deposits, and other defects.
2. Remove existing floor covering and adhesives. Comply with local, state and federal regulations and the RFCI Recommended Work Practices for Removal of Resilient Floor Coverings, as

applicable to the floor covering being removed.

B. Concrete shall meet the requirements of ASTM F710 and be sound, solid, clean, and free of all oil, grease, dirt, curing compounds, and any substance that might act as a bond-breaker before application. As required prepare slab by mechanical methods. No chemicals or solvents shall be used.

C. General: Prepare and clean substrates according to flooring manufacturer's written instructions for substrate indicated.

D. Prepare concrete substrates per ASTM D4259 as follows:
   1. Dry abrasive blasting.
   2. Wet abrasive blasting.
   3. Vacuum-assisted abrasive blasting.
   4. Centrifugal-shot abrasive blasting.
   5. Comply with manufacturer's written instructions.

E. Repair damaged and deteriorated concrete according to flooring manufacturer's written recommendations.

F. Verify that concrete substrates are dry.

G. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with application only after substrates have maximum moisture-vapor-emission rate of per flooring manufactures formal and project specific written recommendation.

H. Perform in situ probe test, ASTM F2170. Proceed with application only after substrates do not exceed a maximum potential equilibrium relative humidity per flooring manufacture's formal and project specific written recommendation.

I. Provide a written report showing test placement and results.

J. Prepare joints in accordance with Section 07 92 00, JOINT SEALANTS and material manufacturer's instructions.

K. Alkalinity: Measure surface pH in accordance with procedures provided in ASTM F710 or as outlined by qualified testing agency or flooring manufacturer's technical representative.

L. Tolerances: Subsurface shall meet the flatness and levelness tolerance specified on drawings or recommended by the floor finish manufacturer. Tolerance shall also not to exceed 1/4" deviation in 10'. As required, install underlayment to achieve required tolerance.

M. Other Subsurface: For all other subsurface conditions, such as wood or metal, contact the floor finish or underlayment manufacturer, as appropriate, for proper preparation practices.

3.3 MOISTURE REMEDIATION COATING

A. Where results of relative humidity testing (ASTM F2170) exceed the requirements of the specified flooring manufacturer, apply remedial coating as specified to correct excessive moisture condition.

B. Prior to remedial floor coating installation mechanically prepare the concrete surface to provide a concrete surface profile in accordance with ASTM D4259.

C. Mix and apply moisture remediation coating in accordance with manufacturer's instructions.

3.4 CEMENTITOUS UNDERLAYMENT

A. Install cementitious self-leveling underlayment as required to correct surface defects, floor flatness or levelness corrections to meet the tolerance requirements as or detailed on drawings, address non-moving cracks or joints, provide a smooth surface for the installation of floor covering, or meet elevation requirements detailed on drawings.

B. Mix and apply in accordance with manufacturer's instructions.

3.5 PROTECTION

A. Prior to the installation of the finish flooring, the surface of the underlayment should be protected from abuse by other trades by the use of plywood, tempered hardwood, or other suitable protection course.

3.6 FIELD QUALITY CONTROL

A. Where specified, field sampling of products shall be conducted by a qualified, independent testing facility.

09 21 16 - GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 DESCRIPTION: Provide Gypsum Wallboard Systems where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.2 RELATED DOCUMENTS: The drawings, General Conditions, Supplementary Conditions, and requirements of Division 1 apply to work of this section.

1.3 NOTIFICATION FOR INSPECTION: Schedule an inspection with Architect prior to work on scope addressed in this section.

1.4 Submittals: Submit manufacturer's product data and installation instructions.

PART 2 - PRODUCTS

2.1 GYPSUM WALLBOARD: Provide gypsum wallboard complying with Fed Spec SS-L-30D, in 48" widths and in such lengths as will result in a minimum of joints. Use type III, grade X, class 1, 5/8" thick on all interior applications unless indicated otherwise.

2.2 HIGH IMPACT GYPSUM BOARD

A. Basis of Design: Gold Bond BRAND Hi-Impact® XP® Gypsum Board

B. Panel Physical Characteristics

1. Core: Fire-resistance rated gypsum core, with additives to enhance mold/mildew resistance, surface indentation resistance, impact resistance and moisture and mold resistant

2. Surface paper: Abrasion resistant, 100 percent recycled content moisture/mold/mildew resistant paper on front, back and long edges

3. Embedded fiberglass mesh

4. Long Edges: Tapered

5. Overall thickness: 5/8 inch

6. Panel complies with Type X requirements of ASTM C 1396

7. Surface Abrasion Resistance: Classification Level 3 in accordance with ASTM C 1629

8. Indentation Resistance: Classification Level 1 in accordance with ASTM C 1629.

9. Soft Body Impact Resistance: Classification Level 3 in accordance with ASTM C 1629

10. Hard Body Impact Resistance: Classification Level 3 in accordance with ASTM C 1629.

11. Mold/Mildew Resistance: 10 when tested in accordance with ASTM D 3273.

C. Usage: Locate this material at Gymnasium & Cafeteria below 12'-0" AFF; Corridors, Lobbies, Vestibules, Custodial, Maintenance, Vocational Shops, Stages, Weight Rooms and Exercise Rooms below 8'-0" AFF; and all other spaces as noted in the Room Finish Schedule. Unless specified otherwise, use Standard Gypsum Board per 2.1 above.

2.3 HIGH IMPACT MOISTURE RESISTANT GYPSUM BOARD

A. Basis of Design: Gold Bond BRAND eXP® Inteior Extreme® IR Gypsum Board

B. Panel Physical Characteristics:

1. Core: Regular gypsum core
2. Thickness: 1/2 inch
3. Long Edges: Tapered. Wrapped with coated fiberglass mat
4. Mold Resistance: 10 when tested in accordance with ASTM D 3273
5. Flexural Strength - Parallel: 80 lbs, when tested in accordance with ASTM C 473
6. Humidified Deflection: less than 1/4 inch when tested in accordance with ASTM C 473
7. Nail pull resistance: 80 lbs, when tested in accordance with ASTM C 473
8. Water Absorption: less than 5 percent when tested in accordance with ASTM C 473
9. Permeance: greater than 10 perms, when tested in accordance with ASTM E 96
10. Combustibility: Noncombustible when tested in accordance with ASTM E 136
11. Flame spread/Smoke Developed: 0/0 when tested in accordance with ASTM E 84
12. Environmental Requirements: Provide products that comply with testing and product requirements for low emitting materials

C. Usage: Locker Rooms

2.4 ACOUSTICALLY ENHANCED GYPSUM BOARD

A. Basis of Design: QuietRock ES, manufactured by Serious Energy

B. Panel Physical Characteristics.

1. Thickness: 5/8 inch (15.9 mm).
2. Tolerance: +/- 0.050” on thickness.
3. Weight: 2.6 lbs/sqft.
4. Materials: Paper faced gypsum, sound damping viscoelastic polymer core.
5. STC Rating: 51-60 (ASTM E90)
6. Fire-rated: 1 hour (ASTM E119)

7. Surface flame: Class A (ASTM E84)

C. Performance Criteria: Wall Assembly STC 55 unless noted higher in drawings.

D. Accessories

1. Acoustical Sealant: QuietSeal Pro: Standard Specification for Latex Sealants (ASTM C834): Grade -18°C

a. Extrudability (ASTM C1183 Method B): ≥2.1 g/s Extrusion Rate

b. Artificial Weathering (ASTM C732 500 Hours): No wash-out, slump, or cracking. Also ≤25% total bond area loss.

c. Volume Shrinkage (ASTM C1241 Type OP): ≤30% volume shrinkage.

d. Low Temperature Flexibility (ASTM C734): No adhesion loss or cracking through to substrate after 500 hours.

e. Recovery and Adhesion Loss (ASTM C736): ≥75% recovery and ≤25% total bond area loss.

f. Slump (ASTM D2202): No slump observed.

g. Stain Index (ASTM D2203): Maximum allowable stain index of 1.

h. Surface Burning Characteristics (ASTM E84): Meets NFPA Class A Fire-Rating

2. QuietPutty: Physical Characteristics:

a. Color: Blue/Green

b. Thickness: 1/8"

c. Weight: 6 oz/pad

d. Size: 7 x 7 in/pad

e. Density: 1oz/in3

f. Unit size: 10 pads/box

g. STC-rated: 47–63 (ASTM E90)

2.5 METAL TRIM: Form from zinc-coated steel not lighter then 26 gage, complying with Fed spec QQ-S-775, type I, class d or e. Casing beads to be channel-shapes with an exposed wing, and with a concealed wing not less then 7/8" wide. Corner beads to be angle shapes with wings not less than 7/8" wide and not perforated for nailing and joint treatment, or with combination metal and paper wings bonded together, not less than 1-1/4" wide and suitable for joint treatment. Expansion joint to be pre-taped & have wings not less than 7/8" wide.

2.6 JOINTING SYSTEM: Provide a jointing system, including reinforcing tape and compound, designed as a system to be used together and as recommended for this use by the manufacturer of the gypsum wallboard approved for use on this Work. Jointing compound may be used for finishing if so recommended by its manufacturer.

2.7 FASTENING DEVICES: For fastening gypsum wallboard in place on metal studs and metal channels, use flat-head screws, shouldered, specially designed for use with power-driven tools, not less than 1" long, with self-tapping threads and self drilling points. For fastening gypsum wallboard in place on wood, use 1-1/4" type W bugle-head screws, or use annular ring type nails complying with ASTM C514 and of the length required by governmental agencies having jurisdiction.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION: Install the gypsum wallboard with the separate boards in moderate contact but not forced into place. At internal and external corners, conceal the cut edges of the boards by the overlapping covered edges of the abutting boards. Stagger the boards so that corners of any four boards will not meet at a common point except in vertical corners. Install the gypsum wallboard with the long dimension of the wallboard at right angles to the supporting members. Make end joints, where required, over framing or furring members.

3.3 ATTACHING: Drive the specified screws with clutch-controlled power screwdrivers, spacing the screws 12" on centers at ceilings and 16" on centers at walls. Where framing members are spaced 24" apart on walls, space screws 12" on centers. Attach double layers in accordance with the pertinent codes and the manufacturer's recommendations as approved by the Architect. Attach to wood as required by governmental agencies having jurisdiction.

3.4 JOINT TREATMENT: Inspect areas to be joint treated, verifying that the gypsum wallboard fits snugly against supporting framework. In areas where joint treatment and compound finishing will be performed, maintain a temperature of not less than 55 degrees for 24 hours prior to commencing the treatment, and until joint and finishing compounds have tried. Apply the joint treatment and finishing compound by machine or hand tool. Provide a minimum drying time of 24 hours between coats, with additional drying time in poorly ventilated areas.

3.5 EMBEDDING COMPOUNDS: Apply to gypsum wallboard joints and fastener heads in a thin uniform layer. Spread the compound not less than 3" wide at joints, center the reinforcing tape in the joint, and embed the tape in the compound. Then spread a thin layer of compound over the tape. After this treatment has dried, apply a second coat of embedding compound to joints and fastener heads, spreading in a thin uniform coat to not less than 6" wide at joints, and feather edged. Sandpaper between coats as required. When thoroughly dry, sandbag to eliminate ridges and high points.

3.6 FINISHING COMPOUNDS: After embedding compound is thoroughly dry and has been completely sanded, apply a coat of finishing compound to joints, fastener heads and as required to produce a uniformly smooth surface. Feather the finishing compound to not less than 12" wide. When thoroughly dry, sandpaper to obtain a uniformly smooth surface, taking care not do not scuff the paper surface of the wallboard, to meet ASTM C 840 Level 5 Finish.

3.7 CORNER TREATMENT: At external corners, install the specified corner bead, fitting neatly over the corner and securing with the same type fasteners used for installing the wallboard. Space the fasteners approximately 6" on centers, and drive through the wallboard into the framing or furring member. After the corner bead has been secured into position, treat the corner with joint compound and reinforcing tape as specified for joints, feathering the joint compound out form 8" to 10" on each side of the corner. At internal corners, treat as specified for joints, except fold the reinforcing tape lengthwise through the middle and fit neatly into the corner.

3.8 EXPANSION JOINTS: In addition to those shown, locate at a minimum as follows: Place vertically at the strike side of each corridor door head, on both sides of wall. Place vertically at the side of each window. Place otherwise as required to have no unjointed section of wall greater than 24'.

3.9 ACOUSTICALLY ENHANCED GYPSUM BOARD INSTALLATION

A. Install gypsum board in accordance with GA-201, GA-216, GA-600, ASTM E-90, and manufacturer's instructions.

B. Install in accordance with reference standards and manufacturer's instructions, product technical bulletins, product catalog and product carton instructions for installation [and as required to comply with seismic requirements].

C. Install framing to comply with ASTM C840 requirements that apply to framing installation.

3.10 OTHER METAL TRIM: The Drawings do not purport to show all locations and requirements for metal trim. Carefully study the Drawings and the installations, and provide all metal trim normally recommended by the manufacturer of the gypsum wallboard approved for use of this Work.

CLEANING UP: In addition to other requirements for cleaning, use necessary care to prevent scattering gypsum wallboard scraps and dust, and to prevent tracking gypsum and joint finishing compound onto floor surfaces. At completion of each segment of installation in a room or space, promptly pick up and remove from the working area all scraps, debris, and surplus material of this Section.

09 22 16 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes non-load-bearing steel framing members for the following applications:

1. Interior framing systems (e.g., supports for partition walls, framed soffits, furring, etc.).

2. Interior suspension systems (e.g., supports for ceilings, suspended soffits, etc.).

1.2 SUBMITTALS

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

1.3 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

PART 2 - PRODUCTS

2.1 NON-LOAD-BEARING STEEL FRAMING, GENERAL

A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.

1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.

2. Protective Coating: ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating, unless otherwise indicated.

2.2 SUSPENSION SYSTEM COMPONENTS

A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch-diameter wire, or double strand of 0.0475-inch-diameter wire.

B. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch diameter.

C. Flat Hangers: Steel sheet, 1 by 3/16 inch by length indicated.

D. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.0538 inch and minimum 1/2-inch-wide flanges.

1. Depth: 2-1/2 inches.

E. Furring Channels (Furring Members):

1. Cold-Rolled Channels: 0.0538-inch bare-steel thickness, with minimum 1/2-inch-wide flanges, 3/4 inch deep.

2. Steel Studs: ASTM C 645.

a. Minimum Base-Metal Thickness: 0.0179 inch.

b. Depth: As indicated on Drawings.

3. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch deep.

a. Minimum Base Metal Thickness: 0.0179 inch.

4. Resilient Furring Channels: 1/2-inch-deep members designed to reduce sound transmission.

a. Configuration: Asymmetrical or hat shaped.

F. Grid Suspension System for Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

a. Armstrong World Industries, Inc.; Drywall Grid Systems.

b. Chicago Metallic Corporation; 640-C or 660-C Drywall Furring System.

c. USG Corporation; Drywall Suspension System.

2.3 STEEL FRAMING FOR FRAMED ASSEMBLIES

A. Steel Studs and Runners: ASTM C 645.

1. Minimum Base-Metal Thickness: 0.0179 inch.

B. Slip-Type Head Joints: Where indicated, provide one of the following:

1. Single Long-Leg Runner System: ASTM C 645 top runner with 2-inch-deep flanges in thickness not less than indicated for studs, installed with studs friction fit into top runner and with continuous bridging located within 12 inches of the top of studs to provide lateral bracing.

2. Double-Runner System: ASTM C 645 top runners, inside runner with 2-inch-deep flanges in thickness not less than indicated for studs and fastened to studs, and outer runner sized to friction fit inside runner.

3. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.

    a. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

        i Steel Network Inc. (The); VertiTrack VTD Series.

        ii Superior Metal Trim; Superior Flex Track System (SFT).

C. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.

1. Minimum Base-Metal Thickness: 0.0179 inch.

D. Cold-Rolled Channel Bridging: 0.0538-inch bare-steel thickness, with minimum 1/2-inch-wide flanges.

1. Depth: As indicated on Drawings.

2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch-thick, galvanized steel.

E. Hat-Shaped, Rigid Furring Channels: ASTM C 645.

1. Minimum Base Metal Thickness: 0.0179 inch.

2. Depth: As indicated on Drawings.

F. Resilient Furring Channels: 1/2-inch-deep, steel sheet members designed to reduce sound transmission.

1. Configuration: Asymmetrical or hat shaped.

G. Cold-Rolled Furring Channels: 0.0538-inch bare-steel thickness, with minimum 1/2-inch-wide flanges.

1. Depth: As indicated on Drawings.

2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare-steel thickness of 0.0312 inch.

3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch-diameter wire, or double strand of 0.0475-inch-diameter wire.

2.4 AUXILIARY MATERIALS

A. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

B. Foam Gasket Isolation Strip at Exterior Walls: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Installation Standard: ASTM C 754.

1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.

3.2 INSTALLING SUSPENSION SYSTEMS

A. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.

B. Suspend hangers from building structure as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.

a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.

2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.

a. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced installation standards.

3. Do not attach hangers to steel roof deck.

4. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.

5. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.

6. Do not connect or suspend steel framing from ducts, pipes, or conduit.

C. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.

D. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

E. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

3.3 INSTALLING FRAMED ASSEMBLIES

A. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.

B. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.

2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

a. Install two studs at each jamb, unless otherwise indicated.

b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.

c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.

3. Other Framed Openings: Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.

4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.

5. Curved Partitions:

a. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.

b. Begin and end each arc with a stud, and space intermediate studs equally along arcs. On straight lengths of not less than 2 studs at ends of arcs, place studs 6 inches o.c.

Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

09 30 13 - CERAMIC TILING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY: This Section includes the following:

A. Ceramic mosaic tile.

B. Quarry tile.

C. Glazed wall tile.

D. Waterproof membrane for thin-set tile installations.

1.3 SUBMITTALS: Product Data for each type of tile, mortar, grout, and other products specified. Tile samples for initial selection submit manufacturer's color charts consisting of actual tiles or sections of tiles showing the full range of colors, textures, and patterns available for each type and composition of tile indicated. Include Samples of accessories involving color selection. Grout samples for initial selection, submit manufacturer's color charts consisting of actual sections of grout showing the full range of colors available for each type of grout indicated.

1.4 QUALITY ASSURANCE: Engage an experienced installer who has completed tile installations similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance. Obtain each color, grade, finish, type, composition, and variety of tile from one source with resources to provide products from the same production run for each contiguous area of consistent quality in appearance and physical properties without delaying the Work. Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from a single manufacturer and each aggregate from one source or producer.

1.5 DELIVERY, STORAGE, AND HANDLING: Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement of ANSI A137.1 for labeling sealed tile packages. Prevent damage or contamination to materials by water, freezing, foreign matter, and other causes.

1.6 PROJECT CONDITIONS: Do not install tile until construction in spaces is completed and ambient temperature and humidity conditions are being maintained to comply with referenced standards and manufacturer's written instructions.

1.7 EXTRA MATERIALS: Deliver extra materials to Owner. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents. Furnish quantity of full-size units equal to 50 SF of amount installed, for each type, composition, color, pattern, and size indicated.

1.8 PREINSTALLATION CONFERENCE: Schedule and hold preinstallation conference minimum one week prior to beginning of work on scope addressed in this section. Coordinate scheduling of meeting with Architect so that Architect can attend meeting.

PART 2 - PRODUCTS

2.1 MANUFACTURERS: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

A. American Olean Tile Company.

B. Daltile.

C. Trinity Tile.

2.2 PRODUCTS, GENERAL: Provide tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated. Provide tile complying with Standard Grade requirements, unless otherwise indicated. Provide materials complying with ANSI standards referenced in "Setting Materials" and "Grouting Materials" articles. Where manufacturer's standard products are indicated for tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, provide specific products or materials complying with the following requirements. Provide Architect's selections from manufacturer's full range of colors, textures, and patterns for products of type indicated. Provide wall tile in two field colors; provide 10% glazed accent tile to be in manufacturer's "designer" series.

2.3 TILE PRODUCTS

A. Large Format Floor Tile:

1. BASIS OF DESIGN: American Olean, Theoretical 12"x24" floor tile.

2. Daltile, Portfolio 24"x24" floor tile.

3. Or 12" x 24" or 24"x24" floor tile equal to the above products approved by Architect.

B. Large Format Wall Tile:

1. BASIS OF DESIGN: American Olean, Theoretical 24"x24" floor tile.

2. Daltile, Portfolio 24"x24" floor tile.

3. Or 24" x 24" wall tile equal to products listed above as approved by Architect.

C. Wall Tile: Provide colors per Drawings.

1. BASIS OF DESIGN: American Olean, Color Story Wall in 4" x 16" tiles.

2. Daltile, Color Wheel in 4" x 16" tiles.

3. Or product lines with 4" x 16" accent tile equal to products listed above as approved by Architect.

D. Trim Units: Provide tile trim units to match the characteristics of adjoining flat tile and to comply with the following requirements:

1. Size: As indicated, coordinated with sizes and coursing of adjoining flat tile where applicable.

2. Shapes: As follows, selected from the manufacturer's standard shapes:

a. Base for Thin-Set Mortar Installations: Straight. Floor Tile type.

b. Internal Corners: Field-butted square corners, except with coved base and cap angle pieces designed to member with stretcher shapes.

c. Tapered Transition Tile: Shape designed to effect transition between thickness of tile floor and adjoining floor finishes of different thickness, tapered to provide a reduction in thickness from 1/2 to 1/4 inch across nominal 4-inch dimension.

2.4 WATERPROOFING FOR THIN-SET TILE INSTALLATIONS: Provide products that comply with ANSI A118.10 and the descriptions in this Article. Manufacturer's standard proprietary product consisting of 1-part liquid-applied urethane in a consistency suitable for trowel application and intended for use as both waterproofing and tile-setting adhesive in a 2-step process.

2.5 SETTING MATERIALS: Mixture of Dry-Mortar Mix and Latex Additive: Mixture of prepackaged dry-mortar mix and liquid-latex additive. For wall applications, provide nonsagging, latex-portland cement mortar complying with ANSI A118.4 for mortar of this type defined in Section F-2.1.2.

2.6 GROUTING MATERIALS

A. FOR USE ON WALLS ONLY - Latex-Portland Cement Grout: ANSI A118.6 for materials described in Section H-2.4, composed as follows:

1. Mixture of Dry-Grout Mix and Latex Additive: Mixture of factory-prepared, dry-grout mix and latex additive complying with the following requirements:

a. Unsanded Dry-Grout Mix: Dry-set grout complying with ANSI A118.6 for materials described in Section H-2.3, for joints 1/8 inch and narrower.

b. Sanded Dry-Grout Mix: Commercial portland cement grout complying with ANSI A118.6 for materials described in Section H-2.1, for joints 1/8 inch and wider.

c. Latex Additive: Styrene butadiene rubber.

d. Latex Additive: Acrylic resin.

B. EPOXY GROUT FOR USE ON RESTROOM & KITCHEN FLOORS

1. Epoxy Grout for Restroom Floors:

a. Basis of Design: Laticrete SpectraLOCK PRO Grout: High performance grout for use with ceramic, glass and stone tile for residential or commercial applications.

b. Water cleanability: Up to 80 minutes.

c. Initial set: 2 hours.

d. Service strength: 24 hours.

e. Shrinkage: 0.25 percent.

f. Quarry/quarry bond strength: 1,000 psi (6.9 MPa) - Failure at tile.

g. Compressive strength 3,500 psi (24 MPa) - 7 days.

h. Tensile strength 1,100 psi (7.6 MPa) - 7 days.

i. Thermal shock 510 psi (3.5 MPa).

j. Water absorption: Less than 0.50 percent.

2. Epoxy Grout for Kitchen Floors:

a. Basis of Design: Latapoxy 2000 Industrial Grout: 100 percent solids stain resistant, acid- and chemical-resistant, water cleanable.

b. Compressive Strength: 10,000 psi (69 MPa), min., in accordance with ANSI A118.5.

c. Bond Strength: 620 psi (4.3 MPa), min., in accordance with ANSI A118.5.

d. Thermal Shock Resistance: Complies with ANSI A118.3.

e. Shrinkage and Sag Resistance: Complies with ANSI A118.5.

f. Initial Set and Service Set Time: Complies with ANSI A118.5.

g. Service Rating: Passing ÅSTM C 627 cycles 1-14 (TCA "Extra Heavy").

h. Color: As selected by Architect from manufacturer's full range.

2.7 MISCELLANEOUS MATERIALS: Trowelable Underlayments and Patching Compounds - Latex-modified, portland-cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated. Tile Cleaner - A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

2.8 MIXING MORTARS AND GROUT: Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions. Add materials, water, and additives in accurate proportions. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

2.9 Aluminum Trim: Aluminum trim is to be used at all head terminations and corners.

A. Head trim: Basis of design to be Shluter QUADEC

B. Corners: Basis of design to be Shluter QUADEC

C. Finish: Anodized aluminum

2.10 THRESHOLDS & TRANSITIONS

A. Ceramic Floor Tile to Resilient Tile or Sealed Concrete: Provide ½" tall, anodized aluminum reducer, similar to "Reducer Trim" by Blanke.

B. Ceramic Floor Tile to Carpet: Provide anodized aluminum trim, similar to "Carpet Trim" by Blanke.

C. Ceramic Floor Tile to finished Concrete or Thin Film: Provide ½" tall, 3" wide anodized aluminum transition, similar to "Drive" by Blanke.

D. Handicap Accessible Showers: Provide ½" tall bullnosed marble or Corian thresholds at the entry.

PART 3 - EXECUTION

3.1 EXAMINATION: Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile. Verify that substrates for setting tile are firm; dry; clean; free from oil, waxy films, and curing compounds; and within flatness tolerances required by referenced ANSI A108 series of tile installation standards for installations indicated. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed before installing tile. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust latter in consultation with Architect. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION: Remove coatings, including curing compounds, and other substances that contain soap, wax, oil, or silicone and are incompatible with tile-setting materials by using a terrazzo or concrete grinder, a drum sander, or a polishing machine equipped with a heavy-duty wire brush. Provide concrete substrates for tile floors installed with dry-set or latex-portland cement mortars that comply with flatness tolerances specified in referenced ANSI A108 series of tile installation standards for installations indicated. Use trowelable leveling and patching compounds per tile-setting material manufacturer's written instructions to fill cracks, holes, and depressions. Remove protrusions, bumps, and ridges by sanding or grinding.

3.3 INSTALLATION, GENERAL

A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 series of tile installation standards in "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in ceramic tile installation schedules.

B. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.

C. Do not install tile that is cracked, chipped or otherwise unsuitable for intended purpose.

D. Extend tile work into recesses and under or behind equipment and fixtures to form a complete covering without interruptions, unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

E. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

F. Jointing Pattern: Lay tile in grid pattern, unless otherwise indicated. Align joints when adjoining tiles on floor, base, walls, and trim are the same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.

G. Lay out tile wainscots to next full tile beyond dimensions indicated.

H. Expansion Joints: Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.

1. Locate joints in tile surfaces directly above joints in concrete substrates.

2. Prepare joints and apply sealants to comply with requirements of Division 7 Section "Joint Sealants."

I. Grout tile to comply with the requirements of the following tile installation standards:

1. For ceramic tile grouts (sand-portland cement, dry-set, commercial portland cement, and latex-portland cement grouts), comply with ANSI A108.10.

J. At showers, tubs, and where indicated, install cementitious backer units and treat joints to comply with ANSI A108.11 and manufacturer's written instructions for type of application indicated.

3.4 WATERPROOFING INSTALLATION: Install waterproofing to comply with waterproofing manufacturer's written instructions to produce a waterproof membrane of uniform thickness bonded securely to substrate. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.

3.5 FLOOR TILE INSTALLATION: Install tile to comply with requirements in the Ceramic Tile Floor Installation Schedule, including those referencing TCA installation methods and ANSI A108 series of tile installation standards. Install tile on floors with the following joint widths:

A. Ceramic Mosaic Tile: 1/16 inch.

B. Quarry Tile: 1/4 inch.

C. Back Buttering: For installations indicated, obtain 100 percent mortar coverage by complying with applicable special requirements for back buttering of tile in referenced ANSI A108 series of tile installation standards:

D. Tile floors in wet areas, including showers, tub enclosures, laundries, and swimming pools.

E. Tile floors composed of tiles 8 by 8 inches or larger.

F. Tile floors composed of rib-backed tiles.

3.6 WALL TILE INSTALLATION: Install types of tile designated for wall installations to comply with requirements in the Ceramic Tile Wall Installation Schedule, including those referencing TCA installation methods and ANSI setting-bed standards. Install tile on walls with 1/16" joint widths.

3.7 STONE TILE INSTALLATION:

A. Pattern: Do not install stones vertically. Blend the stone on the wall from several different boxes to ensure proper color and size variation. See catalog photos for recommended installation pattern.

B. Chalk Lines: Should be used by installer to ensure a straight and level pattern.

C. Vertical Joints: Should be no higher than 4" on average.

D. Drystacked: A polymer modified mortar should be used for all drystacked applications.

E. Installation Info: Download Coronado's latest installation instructions at www.coronado.com for information on mortar and installation recommendations.

3.8 CLEANING AND PROTECTING: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter. Remove latex-portland cement grout residue from tile as soon as possible. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's written instructions, but no sooner than 10 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning. Remove temporary protective coating by method recommended by coating manufacturer that is acceptable to brick and grout manufacturer. Trap and remove coating to prevent it from clogging drains. Leave finished installation clean and free of cracked, chipped, broken, unbonded, and otherwise defective tile work. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure tile is without damage or deterioration at the time of Substantial Completion. When recommended by tile manufacturer, apply a protective coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. Prohibit foot and wheel traffic from tiled floors for at least 7 days after grouting is completed. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

09 51 23 - ACOUSTICAL TILE CEILINGS

PART 1 - GENERAL

1.1 DESCRIPTION: Provide acoustical ceilings where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.2 RELATED DOCUMENTS: The drawings, General Conditions, Supplementary Conditions, and requirements of Division 1 apply to work of this section.

1.3 SUBMITTALS: Within 45 calendar days after the Contractor has received the Owner's Notice to Proceed, submit complete product information to the Architect for review.

1.4 EXTRA STOCK: Deliver to the Owner for his use in future modifications, an extra stock of approximately 100 SF of each type of acoustical material installed, packaging each type of material separately, distinctly marked, and adequately protected against deterioration.

1.5 QUALITY ASSURANCE: Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.6 NOTIFICATION FOR INSPECTION: Schedule an inspection with Architect prior to work on scope addressed in this section.

PART 2 - PRODUCTS

2.1 METAL "T" GRID SYSTEM: All grid to be intermediate duty 15/16” - 2’x2’ unless noted otherwise. Provide a complete system of supporting members, anchors, wall cornices, adapters for light fixtures and grilles, and accessories of every type required for a complete suspended "T" grid system of the arrangements shown on the Drawings, in white, and complying with pertinent requirements of Underwriters Laboratories, Inc., and the governmental agencies having jurisdiction. Acceptable products:

A. Chicago Metallic Corp., "Snap Grid 500".

B. Armstrong

C. Products of other manufacturers when approved in advance by the Architect will be considered.

2.2 ACOUSTICAL CEILING PANELS: Panel size 24"x 24"x 5/8", square edge. Surface flame spread to be 25 or less, smoke developed 50 or less & be UL listed. NRC 0.55 or greater, CAC 33 or better, Light Reflectance 0.85. Acceptable products:

A. Armstrong Fine Fissured HumiGuard Plus #1728.

B. Comparable product by USG

C. Comparable product by Certain-Teed

D. Products of other manufacturers when approved in advance by the Architect will be considered.

2.3 ACOUSTICAL CEILING PANELS AT INSTRUCTIONAL SPACES: Panel size 24"x 24"x 3/4", square edge. Surface flame spread to be 25 or less, smoke developed 50 or less & be UL listed. NRC 0.70 or greater, CAC 40 or better, Light Reflectance 0.85. Acceptable products:

A. Armstrong School Zone Fine Fissured HumiGuard Plus #1810.

B. Comparable product by USG

C. Comparable product by Certain-Teed

D. Products of other manufacturers when approved in advance by the Architect will be considered.

2.4 DAMP LOCATION SYSTEM: At damp locations such as RESTROOMS & KITCHENS, & as indicated in the drawings, use vinyl covered ½" gypsum panels in a stainless steel capped or aluminum grid system, rated for damp location.

2.5 FIRE RATED SYSTEM: As indicated in the drawings, provide one hour rated system assembly. Acceptable products: Chicago Metallic Corp., "Snap Grid 500; USG "Fire Front 850" grid; USG Interiors "Auratone" 5/8" Fissured Firecode panels; Celotex "Protectone". Other products determined by the Architect to be equal & receiving his prior approval may be considered.

2.6 OTHER MATERIALS: Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed & correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION: Except as modified by requirements of governmental agencies having jurisdiction, recommendations of the manufacturer as approved by the Architect, or specific directions of the Architect, install in accordance with ASTM C636 and the pertinent UL design requirements. Provide lateral bracing as required by pertinent codes and regulations. Secure lateral bracing to structural members at right angles to the direction of the partition and four ways in large ceiling areas. Provide hold-down clips for ceiling boards at fiberglass ceiling, when required by governmental agencies having jurisdiction & as indicated on drawings. Make all grid level within a tolerance of one in 1000 and straight within a tolerance of one in 1000. Install acoustical ceiling boards so linearity of facing is as directed by the Architect.

3.3 CLEANING UP: In addition to other stipulated requirements for cleaning, completely remove finger prints and traces of soil from the surfaces of grid and acoustical materials, using only those cleaning materials recommended for the purpose by the manufacturer of the material being cleaned.

09 65 13 - RESILIENT BASE

PART 1 - GENERAL

1.1 DESCRIPTION: Provide resilient tile base where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.2 RELATED DOCUMENTS: The drawings, General Conditions, Supplementary Conditions, and requirements of Division 1 apply to work of this section.

1.3 EXTRA STOCK: Deliver to the Owner for his use in future modifications an extra stock of approximately 20 LF of each color and pattern in each material installed under this Section, packing each type of material separately, distinctly marked, and adequately protected against deterioration.

1.4 SUBMITTALS: Within 45 calendar days after the Contractor has received the Owner's Notice to Proceed, submit complete product information to the Architect for review.

PART 2 - PRODUCTS

2.1 GENERAL: Provide colors and patterns as selected by the Architect from standard colors and patterns of the approved manufacturer in the specified type. Products of other manufacturers when approved in advance by the Architect will be considered.

2.2 COLOR: Color selected by Architect from manufacturer's standard.

2.3 VINYL BASE: 4" high x .080 thk x 100’ roll, by Roppe Rubber Co. or another manufacturer approved in writing by the Architect prior to bidding. Use mitered inside corners. Color selected by Architect from manufacturer's standard.

2.4 ADHESIVES: Provide waterproof and stabilized typed adhesive as recommended by the manufacturer of the material being installed. Asphalt emulsions and other non-waterproof adhesives will not be acceptable.

2.5 OTHER MATERIAL: Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION: Verify that substrate is smooth, level, at required finish elevation, and without more than 1/8" in 10'-0" variation from level or slopes shown on the Drawings. Prior to laying materials, broom clean or vacuum the surfaces to be covered, and inspect the subfloors.

3.3 PRIMING: Apply concrete slab primer if so recommended by the resilient flooring manufacturer. Apply in accordance with the manufacturer's recommendations as approved by the Architect.

3.4 INSTALLING BASE: Install base at the juncture of walls to all new flooring & where shown on the Drawings. Use factory-performed exterior corners, and factory-performed or job-mitered interior corners.

3.5 CLEANING AND PROTECTING: Remove excess adhesive and other blemishes from exposed surfaces, using neutral cleaner recommended by the manufacturer of the resilient materials.

09 65 19 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 DESCRIPTION: Provide resilient tile flooring and base where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

1.2 RELATED DOCUMENTS: The drawings, General Conditions, Supplementary Conditions, and requirements of Division 1 apply to work of this section.

1.3 EXTRA STOCK: Deliver to the Owner for his use in future modifications an extra stock of approximately 100 SF of each color and pattern in each material installed under this Section, packing each type of material separately, distinctly marked, and adequately protected against deterioration.

1.4 SUBMITTALS: Within 45 calendar days after the Contractor has received the Owner's Notice to Proceed, submit complete product information to the Architect for review.

1.5 PREINSTALLATION CONFERENCE: Schedule and hold preinstallation conference minimum one week prior to beginning of work on scope addressed in this section. Coordinate scheduling of meeting with Architect so that Architect can attend meeting.

PART 2 - PRODUCTS

2.1 GENERAL: Provide colors and patterns as selected by the Architect from standard colors and patterns of the approved manufacturer in the specified type. Products of other manufacturers when approved in advance by the Architect will be considered.

2.2 LUXURY VINYL TILE (LVT):

Pflugerville Middle School

1. LVT1: Bentley “Mood”, 9”x48” in color Fluid 801993
2. LVT2: Bentley “Moment”, 9”x48” in color Asymmetric 801989
3. LVT3: Mohawk “Living Local”, 12”x24” in color Terrazzo C0108
4. LVT4: Armstrong “Natural Creations with Diamond 10 Technology”, 9”x48” in color City Mill Grey Morning NA141

NO ALTERNATES WILL BE ACCEPTED FOR THIS CAMPUS’S RESILIENT TILE FLOORING.

2.3 COLOR: Color selected by Architect from manufacturer's standard, installed in a 3-color pattern in hallways & lobbys, per the Architect's instructions.

2.4 ADHESIVES: Provide waterproof and stabilized typed adhesive as recommended by the manufacturer of the material being installed. Asphalt emulsions and other non-waterproof adhesives will not be acceptable.

2.5 CONCRETE SLAB PRIMER: Provide non-staining type as required and as recommended by the manufacturer of the material being installed.

2.6 OTHER MATERIAL: Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION: Verify that substrate is smooth, level, at required finish elevation, and without more than 1/8" in 10'-0" variation from level or slopes shown on the Drawings. Prior to laying materials, broom clean or vacuum the surfaces to be covered, and inspect the subfloors.

3.3 PRIMING: Apply concrete slab primer if so recommended by the resilient flooring manufacturer. Apply in accordance with the manufacturer's recommendations as approved by the Architect.

3.4 LAYOUT: Install materials only after finishing operations, including painting, have been completed and after permanent heating system is operating. Verify that moisture content of concrete slabs, building air temperature, and relative humidity are within the limits recommended by the manufacturers of the materials used. Maintain reference markers, holes, and openings that are in place or plainly marked for future cutting by repeating on the finish surface as marked in the subfloor. Use chalk or other non-permanent marking device.

3.5 INSTALLING RESILIENT TILES: Place units with adhesive cement in strict compliance with the manufacturer's recommendations as approved by the Architect. Butt units tightly to vertical surfaces, nosings, edgings, and thresholds. Scribe as necessary around obstructions and to produce neat joints. Place tiles tightly laid, even, and in straight parallel lines. Extend units into toe spaces, door reveals, and in closets and similar spaces. Lay units from center marks established with principal walls, discounting minor offset, so that units at opposite edges of the room are of equal width. Adjust as necessary to avoid use of cut widths less than 3" wide at room perimeters. Lay units square to axes of the room or space. Match units for color and pattern by using materials from cartoons in the same sequence as manufactured and packaged. Lay in a grid pattern with grain at 90-degree turns, unless otherwise directed by the Architect. Place resilient edge strips tightly butted to units and secured with adhesive, providing at all unprotected edges unless otherwise shown.

3.6 INSTALLING BASE: Install base at the juncture of walls to all new flooring & where shown on the Drawings. Use factory-performed exterior corners, and factory-performed or job-mitered interior corners.

3.7 CLEANING AND PROTECTING: Remove excess adhesive and other blemishes from exposed surfaces, using neutral cleaner recommended by the manufacturer of the resilient materials.

09 68 13 - TILE CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUBMITTALS: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections. Product Data for each type of carpet material, carpet cushion, and installation accessory specified. Submit manufacturer's printed data on physical characteristics, durability, fade resistance, and fire-test-response characteristics. Submit methods of installation for each type of substrate. Samples for initial selection in the form of manufacturer's color charts or Samples of materials showing the full range of colors, textures, and patterns available for each type of carpet indicated. Maintenance data for carpet and cushion to include in the operation and maintenance manual specified in Division 1.

1.3 QUALITY ASSURANCE: Obtain each type of carpet from one source and by a single manufacturer. Provide carpet with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify carpet with appropriate markings of applicable testing and inspecting agency. Surface Flammability: Passes CPSC 16 CFR, Part 1630. Flame Spread: 25 or less per ASTM E 84. Smoke Developed: 450 or less per ASTM E 84.

1.4 DELIVERY, STORAGE, AND HANDLING: Comply with the Carpet and Rug Institute's CRI 104, Section 5: "Storage and Handling." Deliver materials to Project site in original factory wrappings and containers, labeled with identification of manufacturer, brand name, and lot number. Store materials on-site in original undamaged packages, inside well-ventilated area protected from weather, moisture, soilage, extreme temperatures, and humidity. Lay flat, with continuous blocking off ground.

1.5 PROJECT CONDITIONS: Comply with CRI 104, Section 6: "Site Conditions." Do not install carpet until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions are and will be continuously maintained at values near those indicated for final occupancy. Subfloor Moisture Conditions - Moisture emission rate of not more than 3 lb/1000 sq. ft./24 hours when tested by calcium chloride moisture test in compliance with CRI 104, 6.2.1, with subfloor temperatures not less than 55 deg F. Subfloor Alkalinity Conditions - A pH range of 5 to 9 when subfloor is wetted with potable water and pHydrion paper is applied.

1.6 WARRANTY: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents. Submit a written warranty executed by carpet manufacturer and Installer agreeing to repair or replace carpet that does not meet requirements or that fails in materials or workmanship within the specified warranty period. Warranty to cover the following:

Wear -	Lifetime of Carpet. No more than 10% face yarn loss by weight in normal use.
Static -	Lifetime of Carpet.
Edge Ravel -	Lifetime of Carpet. Guaranteed no edge ravel in normal use (no seam sealers required).
Delamination -	Lifetime of Carpet. Guaranteed no delamination in normal use (no chair pads required).

Tuft Bind - Lifetime of Carpet. Guaranteed not to zipper, wet or dry.

Adhesive - Manufacturer to warrant that the Manufacturer's adhesives will bond the carpet to the properly prepared substrate for the life of the carpet. Substrate must meet Manufacturer's recommended floor preparation procedures.

Stain Resistance - Manufacturer to provide lifetime stain warranty and a 10 year Lightfastness and Atmospheric Contaminant Warranty on all Duracolor carpets. This lifetime stain warranty covers all Duracolor carpets made by Manufacturer.

1.7 EXTRA STOCK: Deliver to the Owner for his use in future modifications an extra stock of approximately 100 SF of each color and pattern in each material installed under this Section, packing each type of material separately, distinctly marked, and adequately protected against deterioration.

PART 2 - PRODUCTS

2.1 APPROVED MANUFACTURERS:

A. Tarkett

B. J&J

C. Milliken

D. Other products that have been submitted & approved by the Architect prior to the bid date. Provide complete product information in accordance to the requirements of Section 01630. Acceptance of a substitute manufacturer does not alter the requirement to meet all aspects of this specification section.

2.2 CARPET MATERIAL:

A. Construction: Microweave

B. Gauge: 1/12 Patterned Loop

C. Yarn Content: Antron Legacy nylon 6, 6 (an Environmentally Preferable Product)

D. Density: 5454

E. Tile Size: 50.0 cm x 50.0 cm

F. Backing: Polyurethane Cushion-Carpet Tile System

G. Tufted Yarn Weight: 20 oz / sq yd

H. Total Finished Weight: 50 oz / sq yd

I. Average Finished Pile Height: 0.132"

J. Soil Retardant: DuraTech

K. Recycled Content: 24% Post Industrial

L. Indoor Air Quality: CRI Green Label Plus

2.3 BASIS OF DESIGN:

A. Pflugerville Middle School

1. CPT – Tarkett, Powerbond RS 6'W IN CUSTOM COLOR 115284958-30

2. Walk off Carpet (WCPT) – Tarkett, "Abrasive Action II" IN COLOR CHARCOAL

2.4 INSTALLATION ACCESSORIES:

A. Concrete-Slab Primer: Nonstaining type as recommended by the carpet manufacturer.

B. Trowelable Underlayments and Patching Compounds: As recommended by the carpet manufacturer.

C. Adhesives: Water-resistant, mildew-resistant, nonstaining type to suit products and subfloor conditions indicated and to comply with flammability requirements for installed carpet as recommended by the carpet manufacturer.

D. Transition strip: Schluter 1.7 RENO-V

PART 3 - EXECUTION

3.1 EXAMINATION: Examine subfloors and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting performance of carpet. Do not proceed with installation until unsatisfactory conditions have been corrected. Verify that subfloors and conditions are satisfactory for carpet installation and comply with requirements specified in this Section and those of the carpet manufacturer.

3.2 PREPARATION: Comply with carpet manufacturer's installation recommendations to prepare substrates indicated to receive carpet installation. Level subfloor within 1/4 inch in 10 feet, noncumulative, in all directions. Sand or grind protrusions, bumps, and ridges. Patch and repair cracks and rough areas. Fill depressions. Use leveling and patching compounds to fill cracks, holes, and depressions in subfloor as recommended by the carpet manufacturer. Remove subfloor coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone. Broom or vacuum clean subfloors to be covered with carpet. Following cleaning, examine subfloors for moisture, alkaline salts, carbonation, or dust. Apply concrete-slab primer, according to manufacturer's directions, where recommended by the carpet manufacturer.

3.3 INSTALLATION: Direct Glue-Down Installation to comply with CRI 104, Section 8: "Direct Glue-Down." Comply with carpet manufacturer's recommendations for seam locations and direction of carpet; maintain uniformity of carpet direction and lay of pile. At doorways, center seams under door in closed position. Do not bridge building expansion joints with continuous carpet. Where demountable partitions or other items are indicated for installation on top of finished carpet floor, install carpet before installation of these items. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet manufacturer. Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings. Install pattern

parallel to walls and borders. Eliminate seams to the greatest extent possible considering the material width. Do not install head seams within any room unless the dimension exceeds 40'.

3.4 CLEANING: Perform the following operations immediately after completing installation. Remove visible adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet manufacturer. Remove protruding yarns from carpet surface. Vacuum carpet using commercial machine with face-beater element.

3.5 PROTECTION: Comply with CRI 104, Section 15: "Protection of Indoor Installation." Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure carpet is without damage or deterioration at the time of Substantial Completion.

09 84 13 - SOUND-ABSORPITIVE PANELS

PART 1 - GENERAL

1.1 SUMMARY: Cementitious wood fiber plank acoustical panel system and installation accessories.

1.2 REFERENCES: ASTM C635 Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials; ASTM E1264 Standard Classification for Acoustical Ceiling Products; Ceilings and Interior Systems Construction Association Code of Practices.

1.3 SUBMITTALS: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section. Submit manufacturer's product data and installation instructions. Recommended procedures for normal cleaning and removal of stains including precautions in use of cleaning materials that may be detrimental to surfaces. Submit selection and verification samples for each wood fiber wall panel unit required, showing full range of exposed texture to be expected in completed work. Submit manufacturer's certificate that products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE: Utilize an installer having demonstrated experience on projects of similar size and complexity. Regulatory requirements and approvals of the Southern Building Code Congress International.

1.5 DELIVERY, STORAGE & HANDLING: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer. Prevent soiling, physical damage or wetting. Store cartons open at each end to stabilize moisture content and temperature.

1.6 PROJECT/SITE CONDITIONS: Do not install acoustical panels until building is closed in and HVAC system is operational. Locate materials onsite at least 24 hours before beginning installation to allow materials to reach temperature and moisture content equilibrium. Maintain the following conditions in areas where acoustical materials are to be installed 24 hours before, during and after installation: Relative Humidity 65 - 75%; Uniform Temperature 55 - 70 degrees F.

1.7 MAINTENANCE: Provide 100 SF additional material for use by owner in building maintenance and repair. Provide new unopened cartons of extra materials, packaged with protective covering for storage, identified with appropriate labels.

PART 2 - PRODUCTS

2.1 ACOUSTICAL WALL PANEL SYSTEM: Tectum Inc. Acoustical Wall panel systems consisting of aspen wood fibers bonded with inorganic hydraulic cement; dimensions 1"x 24”x 8’ & long edge beveled. Color to be selected by Architect from standard list of colors. Provide all fasteners, furring strips for a complete single source installation.

2.2 CEILING PANEL: Tectum Inc. Acoustical Cloud system consisting of aspen wood fibers bonded with inorganic hydraulic cement; size as indicated with bevelerd edge. Color to be Natural. Provide all fasteners, suspension system & frame for a complete single source installation.

2.3 ACOUSTICAL CEILING SYSTEM: Tectum Acousti-Tough Ceiling System consisting of aspen wood fibers bonded with inorganic hydraulic cement; dimensions 1” X 24” X 48”. Include suspension grid system.

2.4 ACCESSORIES: Provide accessories as follows:
- A. Painted Head Drywall Screws
- B. Plastic Moulding:
- C. Touch-Up Paint:

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS: Comply with the instructions and recommendations of the acoustical wall panel system manufacturer. Install materials in accordance with governing regulations, fire resistance rating requirements and industry standards applicable to work. Comply with CISCA Code of Practices.

3.2 EXAMINATION: Examine surfaces scheduled to receive suspended or directly attached acoustical units for unevenness, irregularities and dampness that would affect quality and execution of work. Do not proceed with installation of wall panel system until unacceptable conditions are corrected.

3.3 INSTALLATION: Screw head to be flush with panel surface. Securely affix wall panels by means of splines attached vertically to smooth wall or furring strips. Engage vertical kerfs on the edges of the wall panels with splines. Apply adhesive or use Velcro hook and loop fastening where necessary. Cover field cut edges by means of trim or other moldings.

3.4 CLEANING: Clean exposed surfaces of acoustical panel, trim, moldings and suspension members to comply with manufacturer's instructions for cleaning. Touch up any minor finish damage. Remove and replace work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

3.5 PROTECTION: Protect installed work from damage due to subsequent construction activity, including temperature and humidity limitations and dust control, so that the work will be without damage and deterioration at the time of acceptance by the Owner.

09 91 00 – PAINTING & COATINGS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS: Paint and finish the exterior and interior exposed surfaces listed on the Painting Schedule, as noted on the Drawings, as specified herein, and as needed for a complete and proper installation. Unless otherwise indicated, painting other than priming is not required on surfaces in concealed and inaccessible areas. Pre-finished metal surfaces will not require painting except as specified. Do not paint moving parts of operating units. Do not paint over required labels.

1.2 RELATED SECTIONS

A. 09 21 16 - GYPSUM BOARD ASSEMBLIES

B. 04 22 00 - CONCRETE UNIT MASONRY

C. 06 40 23 - INTERIOR ARCHITECTURAL WOODWORK

D. 05 12 00 - STRUCTURAL STEEL FRAMING

E. 05 21 00 - STEEL JOIST FRAMING

F. 05 40 00 - COLD-FORMED METAL FRAMING

G. 05 50 00 - METAL FABRICATIONS

H. 05 51 13 - METAL PAN STAIRS

I. 05 52 13 - PIPE AND TUBE RAILINGS

J. 13 34 19 - METAL BUILDING SYSTEM

1.3 RELATED DOCUMENTS: The drawings, General Conditions, Supplementary Conditions, and requirements of Division 1 apply to work of this section. The requirements of other sections may affect the work under this section.

1.4 DEFINITIONS: "Paint," as used herein, means coating systems materials including primers, emulsions, epoxy, enamels, sealers, fillers, and other applied materials whether used as prime, intermediate, or finish coats.

1.5 QUALITY ASSURANCE: Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section. Provide finish coats which are compatible with the prime coats actually used. Provide barrier coats over non-compatible primers, or remove the primer and reprime as required.

1.6 SUBMITTALS: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit materials list of items proposed to be provided under this Section & manufacturer's specifications and other data needed to prove compliance with the specified requirements.

1.7 JOB CONDITIONS: Do not apply solvent-thinned paints when the temperature of surfaces to be painted and the surrounding air temperatures are below 45 degree F, unless otherwise permitted by the manufacturer's printed instructions as approved by the

Architect. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85%, or to damp or wet surfaces, unless otherwise permitted by the manufacturers' printed instructions as approved by the Architect. Applications may be continued during inclement weather only within the temperature limits specified by the paint manufacturer as being suitable for use during application & drying periods.

1.8 EXTRA STOCK: Upon completion of the work of this Section, deliver to the Owner an extra stock equaling 2 gallons of each color, type, and gloss of paint used in the work, tightly sealing each container, and clearly labeling with contents and location where used.

PART 2 - PRODUCTS

2.1 PAINT MATERIALS: Premium grade by Benjamin Moore, Pratt & Lambert, Sherwin-Williams, Devoe Paint, Negely, Certified Labs, Tnemec, Coronado, PPG or other manufacturers approved in advance by the Architect.

2.2 HIGH BUILD EPOXY COATING, LOW GLOSS (MPI #108): A two component epoxy, high solids, low gloss coating for use on interior or exterior concrete, masonry and primed metal surfaces. Metal surfaces may be primed with conventional epoxy primers, epoxy zinc rich primers or inorganic zinc rich primers.

Listing Mfr	**Label**	**Product Name**	**Code**
Benjamin Moore		Epoxy Mastic Coating	M45/M46
Columbia Paint	DuPont	Corlar	2.15T
Coronado Paint		Polyamide Epoxy Coating Semi-Gloss	101-251
ICI Paints	Devoe Coatings	Bar-Rust 235	235
PPG	Aquapon	High Build Epoxy Marine Coating	97-130/97-139
Sherwin-Williams	Industrial & Marine	Macropoxy 646 Fast Cure Epoxy	B58 W 6series

2.3 PENETRATING CONCRETE SEALER: Enviroseal® 40, clear, water-based, 40% silane penetrating sealer / water repellent.

2.4 PAINTING SCHEDULE:

A. INTERIOR CMU: 1 coat block filler; 2 coats scrubable semi-gloss acrylic latex wall paint.

B. PAINTED WOOD: 1 coat alkyd primer; 2 coats alkyd semi-gloss enamel.

C. TRANSPARENT WOOD FINISH: MPI #85/ Lacquer, Clear, Satin. solvent based, nitrocellulose type, clear, finishes for interior wood surfaces. Application by airless, HVLP or conventional spray equipment.

D. FERROUS METAL: 1 coat alkyd primer; 2 coats alkyd semi-gloss enamel.

E. EXPOSED STEEL STRUCTURE: Touch-up factory primer. In areas where there is no ceiling, “dry-fall” all exposed structure. One color will be used on exposed primary structure & a second on secondary structure.

F. GALVANIZED METAL: 1 coat galvanized metal primer; 2 coats alkyd semi-gloss enamel.

G. DRYWALL: Very light sprayed orange peel or rolled texture; 1 coat latex wall primer; 2 coats scrubable semi-gloss acrylic latex wall paint.

H. EPOXY PAINTED VERTICAL SURFACES: Primer or block filler as appropriate for substrate. 2 coats epoxy semi gloss.

I. CONCRETE FLOORS NOT SCHEDULED OTHERWISE: Penetrating concrete sealer.

2.5 UNDERCOATS AND THINNER: Use only the thinners recommended by the paint manufacturer, and use only to the recommended limits. Insofar as practicable, use undercoat, finish coat, and thinner material as parts of a unified system of paint finish by the same manufacture.

2.6 COLOR SCHEDULES: The Architect will prepare a color schedule with samples for guidance in painting. The Architect may select varied colors on different surfaces, with variations for ceilings, trim, doors, miscellaneous work, and metal work, subject to the following:

2.7 APPLICATION EQUIPMENT: For application of the approved paint, use only such equipment as is recommended for application of the particular paint by the manufacturer of the particular paint, and as approved by the Architect.

2.8 WET AREAS: In toilet rooms and other wet areas, add an approved fungicide to paints. For oil base paints, use 1% phenolmercuric or 4% tetrachlorophenol. For water emulsion and glue size surfaces, use 4% sodium tetrachlorophenol.

2.9 OTHER MATERIALS: Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film. Do not proceed until unsatisfactory conditions are corrected.

3.2 MATERIAL PREPARATION: Mix and prepare paint materials in strict accordance with the manufacturers' recommendations as approved by the Architect. When materials are not in use, store in tightly covered containers. Maintain containers used in storage, mixing and application of paint in a clean condition, free from foreign materials and residue. Stir materials before application, producing a mixture of uniform density. Do not stir into the material any film which may form on the surface, but remove the film and, if necessary, strain the material before using.

3.3 SURFACE PREPARATION: Perform preparation and cleaning procedures in strict accordance with the paint manufacturers' recommendations as approved by the Architect. Remove or provide surface applied protection for items in place not to receive paint finish during painting operations. Clean each surface to be painted prior to applying paint or surface treatment. Remove oil and grease with clean cloths and cleaning solvent prior to start of mechanical cleaning. Schedule cleaning and painting to avoid dust and other contaminants.

A. PREPARATION OF WOOD SURFACES: Clean wood surfaces until free from dirt, oil, and other foreign substances. Smooth finished wood surfaces exposed to view, using the proper sandpaper to produce a uniformly smooth and

unmarred wood surface. Unless specifically approved by the Architect, do not proceed with painting of wood surfaces until the moisture content of the wood is 12% or less.

B. PREPARATION OF METAL SURFACES: Thoroughly clean surfaces until free from dirt, oil, and grease. On galvanized surfaces, use solvent for the initial cleaning, and then treat the surface thoroughly with phosphoric acid etch. Remove etching solution completely before proceeding. Allow to dry thoroughly before application of paint. Teacup shop-applied prime coats which have been damaged, and touchup bare areas prior to start of finish coats application.

C. CEMENTITIOUS MATERIALS: Prepare cementitious surfaces of concrete, concrete block, cement plaster and cement-asbestos board to be painted by removing efflorescence, chalk, dust, dirt, grease, oils, and by roughening as required to remove glaze. Determine alkalinity and moisture content of surfaces to be painted by performing appropriate tests. If surfaces are found to be sufficiently alkaline to cause blistering and burning of finish paint correct this condition before application of paint. Do not paint over surfaces where moisture content exceeds that permitted in manufacturer's printed directions.

3.4 PAINT APPLICATION: Slightly vary the color of succeeding coats. Do not apply additional coats until the completed coat has been inspected and approved. Sand and dust between coats to remove defects visible to the unaided eye from a distance of five feet. On removable panels and hinged panels, paint the back sides to match the exposed sides. For completed work, match the approved Samples as to texture, color, and coverage. Remove, refinish, or repaint work not in compliance with the specified requirements.

A. BRUSH APPLICATIONS: Brush out and work the brush coats onto the surface in an even film. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, and other surface imperfections will not be acceptable.

B. SPRAY APPLICATION: Where spray application is used, apply each coat to provide the hiding equivalent of brush coats. Do not double back with spray equipment to build up film thickness of two coats in one pass.

3.5 DRYING: Allow sufficient drying time between coats, modifying the period as recommended by the material manufacture to suit adverse weather conditions. Consider oil-base and oleo-resinous solvent-type as dry for recoating when the paint feels firm, does not deform or feel sticky under moderate pressure of the thumb, and when the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

3.6 MISCELLANEOUS SURFACES: Finish exposed electric panels, access doors, conduits, pipes, ducts, grilles, registers, vents, and items, of similar nature to match the adjacent wall and ceiling surfaces, or as directed. Paint visible duct surfaces behind vents, registers, and grilles flat black. Wash metal with solvent, prime, and apply two coats of alkyd enamel. Paint prime coated hardware to match adjacent surfaces.

3.7 SEALING: Prime, stain, or seal wood required to be job-painted immediately upon delivery to job. Prime all surfaces of finish carpentry. When transparent finish is required, use spar varnish for backpriming. Seal tops, bottoms, and cut-outs of unprimed wood doors immediately upon delivery to job.

DIVISION 10 – SPECIALTIES

10 11 00 - VISUAL DISPLAY UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Porcelain enamel chalkboards.

2. Porcelain enamel markerboards.

3. Natural-cork tackboards.

B. Related Sections include the following:

1.3 SUBMITTALS

A. Product Data: For each type of visual display board indicated. Include motor capacities and individual panel weights for sliding chalkboard and markerboard units.

B. Shop Drawings: For each type of visual display board required.

1. Include dimensioned elevations. Show location of joints between individual panels where unit dimensions exceed maximum panel length.

2. Include sections of typical trim members.

3. Show anchors, grounds, reinforcement, accessories, layout, and installation details.

C. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors and textures available for the following:

1. Chalkboards and Markerboards: Actual sections of porcelain enamel finish for each type of chalkboard and markerboard required.

D. Product Certificates: Signed by manufacturers of tackboards certifying that vinyl-fabric-faced cork tackboard materials furnished comply with requirements specified for flame-spread ratings.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced installer who is an authorized representative of chalkboard manufacturer for both installation and maintenance of the type of sliding chalkboard units required for this Project.

B. Source Limitations: Obtain visual display boards through one source from a single manufacturer.

C. Product Options: Drawings indicate size, profiles, and dimensional requirements of visual display boards and are based on the products indicated. Other manufacturers' products with equal performance characteristics may be considered. Refer to Division 1 Section "Substitutions."

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval and only to the extent needed to comply with performance requirements. Where modifications are proposed, submit comprehensive explanatory data to Architect for review.

D. Fire-Test-Response Characteristics: Provide vinyl-fabric-faced tackboards with the following surface-burning characteristics as determined by testing assembled materials composed of facings and backings identical to those required in this Section per ASTM E 84 by a testing and inspecting agency acceptable to authorities having jurisdiction. Identify vinyl-fabric-faced tackboards with appropriate markings of applicable testing and inspecting agency.

1. Flame Spread: 25 or less.

2. Smoke Developed: 10 or less.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify field measurements before preparation of Shop Drawings and before fabrication to ensure proper fitting. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Allow for trimming and fitting where taking field measurements before fabrication might delay the Work.

1.6 WARRANTY

A. General Warranty: The special porcelain enamel chalkboard warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

B. Porcelain Enamel Chalkboard Warranty: Submit a written warranty executed by manufacturer agreeing to replace porcelain enamel chalkboards that do not retain their original writing and erasing qualities, become slick and shiny, or exhibit crazing, cracking, or flaking within the specified warranty period, provided the manufacturer's written instructions for handling, installation, protection, and maintenance have been followed.

1. Warranty Period: 50 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Best-Rite Chalkboard Co.

2. Carolina Chalkboard Co.
3. Claridge Products and Equipment, Inc.
4. Ghent Manufacturing, Inc.
5. Greensteel, Inc.
6. Lemco, Inc.
7. Marsh Chalkboard Company.
8. Nelson Adams Company.
9. Newline Products

2.2 MATERIALS

A. Porcelain Enamel Chalkboards and Markerboards: Balanced, high-pressure-laminated, porcelain enamel chalkboards of 3-ply construction consisting of face sheet, core material, and backing.

1. Face Sheet: 0.024-inch enameling grade steel especially processed for temperatures used in coating porcelain on steel. Coat exposed face and edges with a 3-coat process consisting of primer, ground coat, and color cover coat. Coat concealed face with a 2-coat process consisting of primer and ground coat. Fuse cover and ground coats to steel at manufacturer's standard firing temperatures, but not less than 1200 deg F. Provide manufacturer's standard matte-finish cover coat, with color selected from manufacturer's standards.

2. Core: 3/8” thick, particleboard core material complying with requirements of ANSI A208.1, Grade 1-M-1.

3. Backing Sheet: 0.005-inch-thick, aluminum-foil sheet backing.

B. Natural-Cork Tackboards: Single-layer, 1/4-inch-thick, seamless, compressed fine-grain, bulletin board quality, natural-cork sheet; face sanded for natural finish; complying with MS MIL-C-15116, Type II.

2.3 ACCESSORIES

A. Metal Trim and Accessories: Fabricate frames and trim of not less than 0.062-inch-thick, extruded-aluminum alloy, size and shape as indicated, to suit type of installation. Provide straight, single-length units. Keep joints to a minimum. Miter corners to a neat, hairline closure.

1. Where size of visual display boards or other conditions require support in addition to normal trim, provide structural supports or modify trim as indicated or as selected by Architect from manufacturer's standard structural support accessories to suit conditions indicated.

2. Chalktray: Manufacturer's standard, continuous, solid, extrusion-type, aluminum chalktray with ribbed section and smoothly curved exposed ends for each chalkboard.

3. Map Rail: Furnish map rail at top of each unit, complete with the following accessories:

a. Display Rail: Provide continuous cork display rail approximately 1 or 2 inches wide, as indicated, integral with map rail.

b. End Stops: Provide one end stop at each end of map rail.

c. Map Hooks: Provide 2 map hooks for every 48 inches of map rail or fraction thereof.

d. Flag Holder: Provide one flag holder for each room.

2.4 FABRICATION

A. Porcelain Enamel Chalkboards: Laminate facing sheet and backing sheet to core material under pressure with manufacturer's recommended flexible, waterproof adhesive.

B. Assembly: Provide factory-assembled chalkboard and tackboard units, unless field-assembled units are required.

1. Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, balanced around center of board, as acceptable to Architect.

2. Provide manufacturer's standard vertical joint system between abutting sections of chalkboards.

3. Provide manufacturer's standard mullion trim at joints between chalkboards and tackboards.

2.5 FINISHES

A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes.

B. Finish designations prefixed by AA conform to the system established by the Aluminum Association for designating aluminum finishes.

C. Class II, Clear Anodic Finish: AA-M12C22A31 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.010 mm or thicker) complying with AAMA 607.1.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine wall surfaces, with Installer present, for compliance with requirements and other conditions affecting installation of visual display boards.

1. Surfaces to receive chalkboards or markerboards shall be free of dirt, scaling paint, and projections or depressions that would affect smooth, finished surfaces of chalkboards or markerboards.

2. Surfaces to receive tackboards shall be dry and free of substances that would impair the bond between tackboards and substrate.

3. Verify proper placement of blocking as required for sufficient support before proceeding.

4. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Deliver factory-built visual display boards completely assembled in one piece without joints, where possible. If dimensions exceed panel size, provide 2 or more pieces of equal length as acceptable to Architect. When overall

dimensions require delivery in separate units, prefit components at the factory, disassemble for delivery, and make final joints at the site. Use splines at joints to maintain surface alignment.

B. Install units in locations and at mounting heights indicated and according to manufacturer's written instructions. Keep perimeter lines straight, plumb, and level. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.

C. Coordinate Project-site-assembled units with grounds, trim, and accessories. Join parts with a neat, precision fit.

3.3 INSTALLATION ON EXTERIOR WALL: When unit is called to be installed on an exterior wall, provide ¼" spacer to allow for air flow behind unit.

3.4 ADJUSTING AND CLEANING

A. Verify that accessories required for each unit have been properly installed and that operating units function properly.

Clean units according to manufacturer's written instructions.

10 14 00 - SIGNAGE

PART 1 - GENERAL

1.1 DESCRIPTION: Furnish all labor, materials, tools, & equipment as required for signage, as shown on the Drawings. GENERAL: Provide signs which designate permanent rooms that may be used by the public, complying with TAS requirements for braille, character, height, finish & contrast.

1.2 RELATED DOCUMENTS: The drawings, General Conditions, Supplementary Conditions, and requirements of Division 1 apply to work of this section. Comply with recommendations contained in the "Americans with Disabilities Design Guidelines" & the Texas Accessibility Standards.

1.3 COORDINATION: Cooperation by Contractor for work of this section with all other trades is mandatory so that all phases of work may be properly coordinated without delays or damage to any parts of the work.

1.4 SUBMITTALS: Within 45 calendar days after the Contractor has received the Owner's Notice to Proceed, submit complete product information to the Architect for review, to include rubbing for approval.

PART 2 - PRODUCTS

2.1 MATERIAL: Signage material & mounting to be weather & vandalism resistant.

2.2 ROOM IDENTIFICATION SIGNS: Provide 1/8" acrylic room identification signs w/ fused imbedded separately engraved characters & optically correct beaded braille. Mount beside door at each room adjoining corridor except restrooms. Text & color to be selected by Architect. Letters and numbers on signs shall have a width-to-height ratio between 3:5 and 1:1 and a stroke-width-to-height ratio between 1:5 and 1:10. Letters and numerals shall be upper case, sans serif or simple serif type at least 5/8 in (16 mm) high, but no higher than 2 in (50 mm) and shall be accompanied with Grade 2 Braille. The characters and background of signs shall be eggshell, matte, or other non-glare finish. Characters and symbols shall contrast with their background.

2.3 RESTROOM IDENTIFICATION SIGNS: Provide 1/8" acrylic room identification signs meeting the requirements above, mounted beside door at each restroom. Text & color to be selected by Architect. Provide braille text & international symbol for accessibility.

PART 3 - EXECUTION

3.1 PREPARATION: Examine the areas and conditions under which work of this Section will be performed. Correct condition detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 MOUNTING LOCATION AND HEIGHT FOR INTERIOR SIGNAGE: Where permanent identification is provided for rooms and spaces, signs shall be installed on the wall adjacent to the latch side of the door. Where there is no wall space to the latch side of the door, including at double leaf doors, signs shall be placed on the nearest adjacent wall. Mounting height shall be 60 in (1525 mm) above the finish floor to the centerline of the sign. Mounting location for such signage shall be so that a person may approach within 3 in (76 mm) of signage without encountering protruding objects or standing within the swing of a door.

3.3 INSTALLATION: Install this work in strict accordance with the original design, and the manufacturer's recommendations as accepted by the Architect. Install plaque using rossette head anchor bolts. Exterior building letters to be stud mounted. Place & attach firmly & accurately into position, square, plumb, level, & true. Protect work during storage, installation & until final acceptance, replacing any damaged material.

3.4 SIGNAGE SCHEDULE: As per drawings.

10 21 13 - SOILID PLASTIC TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SCOPE

A. Requirements of the general conditions and special conditions apply to the work in this section.

B. Provide all labor, materials, etc. necessary for the completion of the work of this section as specified or shown on the drawings.

C. Work of this section consists of, but is not limited to the following:

1. Toilet compartments

2. Urinal Screens

3. Hardware, etc.

1.2 SUBMITTALS

A. Submit shop drawings, including details and a sample of each item of hardware (if requested) for architect's approval.

B. Provide drawings showing location for adequate steel reinforcements or wood blocking in walls to be provided by others for proper securement of the finished work.

C. Furnish color samples for use of the architect.

D. Furnish documentation on hardware, headrail, and continuous wall bracket to meet specification as outlined.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Plastic Panels: High density polyethylene (HDPE) suitable for exposed applications, waterproof, non-absorbent, and graffiti-resistant textured surface, Class C.

B. Zinc Aluminum Magnesium and Copper Alloy (Zamac): ASTM B 86.

C. Stainless Steel Sheet: ASTM A 240 or A 666, 300 series.

D. Stainless Steel Castings: ASTM A 743/A 743M.

E. Aluminum: ASTM B 221.

2.2 PLASTIC TOILET COMPARTMENTS

A. Toilet Compartment Type:

1. Overhead braced.

    a. Basis of Design Product: Bradley, Mills Partitions, Bradmar Solid Plastic, Sentinel, Series 400.

    b. Approved Manufacturers:

        i Scranton Products

B. Urinal Screen Style:

1. Floor Braced:

    a. Basis of Design Product: Bradley, Mills Partitions, Bradmar Solid Plastic, Model #3.

        i Approved Manufacturers:

            - Scranton Products

    b. 4” wide front attached post, maximum.

    c. Continuous heavy-duty aluminum brackets.

C. Door, Panel, and Pilaster Construction, General: HDPE, with a 3/16" (4.8mm) radiused edge.

    a. Provide exposed surfaces free of pitting, visible seams and fabrication marks, stains, or other imperfections.

    b. Provide aluminum heat sink at bottom edge of panels and doors.

D. Door Construction: 1 inch thick.

E. Panel Construction: 1 inch thick.

F. Pilaster Construction: 1 inch thick.

G. Headrail: Extruded anodized aluminum headrail with anti-grip profile. Clamps around pilaster and is secured to the wall with stainless steel brackets.

H. Shoes: 4 inches high minimum, 300 series stainless steel with No. 4 satin brushed finish.

I. Urinal-Screen Construction: Matching toilet compartment panel construction

1. Urinal-Screen Post: Manufacturer's standard post design of material matching the thickness and construction of pilasters; with shoe and sleeve (cap) matching that on the pilaster.

J. Brackets (Fittings): Full-Height (Continuous) Type: Manufacturer's standard design; heavy-duty aluminum.

K. Plastic Panel Finish: Manufacturer's standard impregnated finish, with one color in each room.

1. Color: As selected by Architect from manufacturer's full range.

2.3 HARDWARE

A. Hardware, Heavy Duty: Manufacturer's heavy-duty stainless steel, including stainless steel tamper-resistant fasteners:

1. Hinges: Self-closing continuous spring-loaded type adjustable to hold doors open at any angle up to 90 degrees, with emergency access by lifting door.

2. Latch and Keeper: Surface-mounted slide latch with flat rubber-faced combination door strike and keeper, with provision for emergency access, meeting requirements for accessibility at accessible compartments.

3. Coat Hook: Combination hook and rubber-tipped stop, sized to prevent door from hitting compartment-mounted accessories. Provide wall bumper where door abuts wall. Provide formed L-shaped hook without stop at outswing doors. Mount with stainless steel through-bolts.

4. Door Pull: Standard unit on outside of inswing doors. Provide pulls on both sides of outswing doors.

2.4 FABRICATION

A. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.

B. Urinal-Screen Posts: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment at bottoms of posts. Provide caps, shoes, and covers at posts to conceal anchorage.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine work area to verify that measurements, substrates, supports, and environmental conditions are in accordance with manufacturer's requirements to allow installation.

1. Proceed with installation once conditions meet manufacturer's requirements.

3.2 INSTALLATION

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

B. Install toilet partitions and screens in spaces with operating, temperature controlled HVAC systems. Shield partitions and screens from direct sunlight.

C. Clearances: Install with clearances indicated on Drawings. Where clearances are not indicated, allow maximum 1/2 inch between pilasters and panels, and 1 inch between panels and walls.

3.3 ADJUSTING

A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 15 degrees from closed position when unlatched. Set hinges on out-swinging doors and doors in privacy screens to return doors to fully closed position.

3.4 FINAL CLEANING

A. Remove packaging and construction debris and legally dispose of off-site.

Clean partition and screen surfaces with materials and cleansers in accordance with manufacturer's recommendations.

10 28 00 - TOILET, BATH AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUBMITTALS: Include construction details, material descriptions and thicknesses, dimensions, profiles, fastening and mounting methods, specified options, and finishes for each type of accessory specified. Product Schedule, indicating types, quantities, sizes, and installation locations by room of each accessory required. Use designations indicated in the Toilet and Bath Accessory Schedule and room designations indicated on Drawings in product schedule.

1.3 COORDINATION: Coordinate accessory locations with other work to prevent interference with clearances required for access by disabled persons, proper installation, adjustment, operation, cleaning, and servicing of accessories. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS: Subject to compliance with requirements, manufacturers offering accessories that may be incorporated into the Work include, but are not limited to, the following:

A. Bobrick Washroom Equipment, Inc.
B. Bradley Corporation.
C. General Accessory Manufacturing Co.
D. ASI

2.2 ACCESSORY SCHEDULE:

A. PAPER TOWEL DISPENSER: At each lavatory & Where shown on drawings, provide stainless-steel paper towel dispenser complying with the following - Surface-mounted type sized for minimum of 300 C-fold or 400 multifold paper towels without using special adapters; with hinged front equipped with tumbler lockset; and with refill indicators that are pierced slots at sides or front.

B. TOILET TISSUE DISPENSER: At each toilet & where shown on drawings, provide double-roll toilet tissue dispenser, surface mounted with concealed anchorage of chrome-plated zinc alloy (zamac) or steel, designed for 4-1/2- or 5-inch-diameter-core tissue rolls. Operation to be eccentric-shaped, molded-plastic spindle revolves one-half revolution per dispensing operation for controlled delivery; core cannot be removed until roll is empty.

C. SOAP DISPENSER: At each lavatory & where shown on drawings, provide soap dispenser complying with the following - Liquid Soap Dispenser, Horizontal-Recessed-Tank Type: Minimum 45-oz. capacity, stainless-steel dispenser that is removable for servicing and secured with tumbler lockset; with stainless-steel piston, springs, and internal parts designed to dispense soap in measured quantity by pump action; and with integral check valve to prevent leaking.

D. GRAB BAR: At each HC accessible toilet, HC shower & where shown on drawings, provide 0.05” thk stainless-steel grab bar, 1-1/4 inches OD for medium-duty applications. Mounting to be concealed with manufacturer's standard flanges and anchors. Gripping Surfaces to be manufacturer's standard slip-resistant texture.

E. MOP AND BROOM HOLDER: In each janitor’s closet & where shown on drawings, provide mop and broom holder, 36-inch-long unit fabricated of minimum nominal 0.0375-inch-thick, stainless-steel hat channel with four spring-loaded, rubber, cam-type, mop/broom holders.

F. UNDERLAVATORY GUARD: At all exposed lavatory piping, provide underlavatory guard. Insulating piping coverings to be white, antimicrobial, molded-vinyl covering for supply and drain piping assemblies intended for use at accessible lavatories to prevent direct contact with and burns from piping. Provide components as required for applications indicated with flip tops at valves that allow service access without removing coverings.

G. SANITARY NAPKIN DISPOSAL UNIT: At each women's toilet stall & where shown on drawings, provide stainless-steel sanitary napkin disposal unit, to be partition-mounted, dual-access type with adjustable flanges for partition mounting to serve two toilet compartments; self-closing door; and reusable receptacle that is removable from one side.

H. MIRROR UNIT: At each lavatory & where shown on drawings provide stainless-steel, channel-framed mirror. Fabricate frames for glass-mirror units to accommodate glass edge protection material. Provide mirror backing and support system that permits rigid, tamper-resistant glass installation and prevents moisture accumulation.

I. HAND DRYER: Basis of Design - Provide hand dryer as shown in drawings. Basis of design to be World Dryer Slim-Dri Hand Dryer L-974, Aluminum cover with White finish, ADA compliant, Automatic activation, 10 year warranty.

J. SHOWER (STUDENT ADA): Bradley #HN250-EF-SX-SHV-RSD-VS, wall mounted, 16 gauge stainless steel, equa-flo pressure balanced mixing valve (ASSE 1016_, 1.5 GPM flow control, severe service shower head, vertical shroud (verify ceiling height with architectural plans), recessed soap dish, vandal resistant screws, 60" stainless steel flexible hose with in-line backflow preventer and quick disconnect, 18 gauge stainless steel L-shaped grab bar and folding plastic seat. Verify left- or right-hand arrangement with Architect. Verify exact mounting height with Architect.

K. FOLDING SHOWER SEAT: At each accessible shower & where shown on drawings, provide heavy-duty hinged seat designed to fold up against wall when not in use with stainless-steel support braces, hinges, frame, and fasteners; of all-welded construction; L-shaped seat meeting requirements of the Texas Accesibility Standards. Seat to be phenolic or polymeric composite of slat-type or one-piece construction. Color as selected by Architect from mfr's full range. Contractor to submit this item to the Owner's accessibility reviewer & receive approval prior to installation. Approved manufacturers are limited to the following:
   1. Bradley – 956 series
   2. Tubular Specialties Mfg. - 731PH
   3. Brey-Krause Mfg. Co. – Style B

L. COLLAPSABLE SHOWER DAM: At all showers with less than 1.5" lip at edge, provide a rubber, callapsable water retainer, to be 1.5" wide with curved or straight endcap, as fits the shower unit, fastened with epoxy glue.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed. Correct condition detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected. Coordinate this work with interfacing work to ensure proper sequencing.

3.2 INSTALLATION: Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Provide wood blocking at drywall partitions. Install units level, plumb, and firmly anchored in locations and at heights indicated. Secure mirrors to walls in concealed, tamper-resistant manner with special hangers, toggle bolts, or screws. Set units level, plumb, and square at locations indicated, according to manufacturer's written instructions for substrate indicated. Install grab bars to withstand a downward load of at least 250 lbf, when tested according to method in ASTM F 446.

3.3 FABRICATION: Unless otherwise indicated, fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with continuous stainless-steel hinge. Provide concealed anchorage where possible. Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

3.4 ADJUSTING AND CLEANING: Adjust accessories for unencumbered, smooth operation and verify that mechanisms function properly. Replace damaged or defective items. Remove temporary labels and protective coatings. Clean and polish exposed surfaces according to manufacturer's written recommendations.

10 44 16 - FIRE EXTINGUISHERS AND CABINETS

PART 1 - GENERAL

1.1 SUMMARY: Provide portable fire extinguishers and cabinets. Provide mounting brackets where no cabinet is indicated. Submit for approval shop drawings, product data.

1.2 QUALITY ASSURANCE: Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

A. Source Limitations: Obtain fire extinguishers and cabinets through one source from a single manufacturer.

B. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Standard for Portable Fire Extinguishers."

1.3 SUBMITTALS: Shop Drawings for overall sizes and details of fabrication and erection, relationship to adjacent construction, showing anchorage, hardware, accessories, and finishes. Submit manufacturer's technical data, including descriptive data for products & installation instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

A. Fire-Protection Cabinets:
B. General Accessory Manufacturing Co.
C. J.L. Industries, Inc.
D. Larsen's Manufacturing Company.
E. Modern Metal Products; Div. of Technico.
F. Samson Products, Inc.

2.2 FIRE EXTINGUISHERS: UL listed and labeled units. At areas other than kitchen or food preparation, provide 10 lb, multi-purpose ABC dry chemical type. At kitchen or food preparation areas provide 10lb, BC dry chemical type.

2.3 CABINETS: UL listed and labeled units. Semi-recessed with door & mounting hardware.

A. At metal stud partitions less than 6”: Basis of design to be Larsen Manufacturing 2409, semi-recessed. At athletic areas, corridors and lobbies provide rolled edge frame.

B. At metal stud partitions 6” and greater: Basis of design to be Larsen Manufacturing 2409-RT, fully recessed.

C. At block partitions: Basis of design to be Larsen Manufacturing 2409-6R, 2-1/2” semi-recessed. At athletic areas, corridors and lobbies provide rolled edge frame.

D. Door & Glazing style: Basis of design to be Larsen Manufacturing Vertical Duo with clear acrylic glazing.

E. Lettering: To be red in vertical style.

F. Handles: To be manufacturer typical, except at athletic areas provide recessed handle.

G. Materials: Trim, frame, door, and hardware to suit cabinet type, trim style, and door style indicated. Weld joints and grind smooth. Miter and weld perimeter door frames.

H. Fire-Rated Cabinets: Listed and labeled to meet requirements of ASTM E 814 for fire-resistance rating of wall where it is installed.

PART 3 - EXECUTION

3.1 PREPARATION: Examine the areas and conditions under which work of this Section will be performed. Correct condition detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

INSTALLATION: Install at locations and heights indicated and acceptable to authorities having jurisdiction. Install cabinets plumb and level at heights acceptable to authorities having jurisdiction. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction and with uniform appearance. Coordinate with work of other sections. Restore damaged finishes and test for proper operation. Cabinets to maintain the fire rating of installed wall assembly. Clean and protect completed work from damage.

10 95 10 - MISC. ACCESSORIES AND EQUIPMENT

PART 1 - GENERAL

1.1 DESCRIPTION: Furnish all labor, materials, tools, & equipment as required for all Misc. Accessories & Equipment, as shown on the Drawings, specified herein, and as needed for a complete and proper installation.

1.2 RELATED DOCUMENTS: The drawings, General Conditions, Supplementary Conditions, and requirements of Division 1 apply to work of this section.

1.3 COORDINATION: Cooperation by Contractor for work of this section with all other trades is mandatory so that all phases of work may be properly coordinated without delays or damage to any parts of the work.

1.4 PRODUCT HANDLING: Protect stored materials against exposure to weather and contact with moisture, providing air good circulation.

1.5 SUBMITTALS: Within 45 calendar days after the Contractor has received the Owner's Notice to Proceed, submit complete product information to the Architect for review.

PART 2 - PRODUCTS

2.1 GENERAL: Provide materials which are compatible with any underlying material. Provide all accessories required for a complete and proper installation, as recommended by the manufacturer.

2.2 COAT HOOKS: 2 Hook, side-by-side. Material: Aluminum with natural aluminum finish. Hook height: minimum 1-1/2”. Hook width: minimum 1-1/8".

PART 3 - EXECUTION

3.1 UTILITY COORDINATION: Coordinate & verify that all required utility services are provided by other subcontractors or provide those required under the work of this section.

3.2 SURFACE CONDITIONS: Examine the areas and conditions under which work of this Section will be performed. Correct condition detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected. Coordinate this work with interfacing work to ensure proper sequencing.

3.3 INSTALLATION: Install this work in strict accordance with the original design, requirements of governmental agencies having jurisdiction, and the manufacturer's recommendations as accepted by the Architect. Install materials and systems in proper relation with adjacent construction and with uniform appearance. Provide wood blocking at drywall partitions. Place & attach all components firmly & accurately into position, square, plumb, level, & true.

3.4 PROTECTION/CLEANING: Protect work during storage, installation & until final acceptance, replacing any damaged material. Clean completed work, removing excess material and blemishes from exposed surfaces, using cleaner recommended by the manufacturer.