Section 01000
SUMMARY OF WORK

PART 1 - GENERAL

1.1 Work covered by Contract Documents for Attendant Counter Upgrade Meadowbrook Recreation Center.

A. Work covers construction located at 1400 Dugan Street, Arlington, Texas.

B. Contractor's Duties

1. Except as specifically noted otherwise, provide and pay for:
   a. Labor, materials, and equipment.
   b. Tools, construction, equipment, and machinery.
   c. Other facilities and services necessary for proper execution and completion of work.
2. Owner is exempt from sales tax on products permanently incorporated into the work. Follow instructions issued by State Comptroller's Office for purchase of such products free of tax.
3. Secure as necessary for proper execution and conditions of work:
   a. License/Business Registration; paid by Contractor.
   b. Permits/Approvals required by governing entities; paid by the Contractor and reimbursed by the Owner in accordance with the fee schedule provided in Section 00501 of the Project Manual.
4. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of work.
5. Promptly submit written notice to Owner of observed variances of Contract Documents from legal requirements.
6. Enforce strict discipline and good order among employees. Do not employ on work:
   a. Unfit persons.
   b. Persons not skilled in assigned task.
7. Checking Dimensions at Site:
   a. Verify measurements as necessary before ordering any materials or doing any work.
   b. Report any discrepancies to Owner for instructions before proceeding.
8. Approval of Working Conditions:
   a. Notify the Owner of any unsatisfactory condition before beginning to perform work.
   b. Beginning of work by Contractor shall constitute his acceptance of substrate and surface conditions.
9. Under no condition shall a portion of work proceed prior to preparatory work having been completed, cured, dried, or otherwise made satisfactory to receive such related work.
10. The Contractor shall establish and maintain his own grades, lines, levels, and bench marks. Verify all grades, lines, levels, and dimensions shown on drawings and report in writing any observed errors or inconsistencies to the Owner before beginning work. Establish his own basic lines and grades in conformity with Owner's permanent bench marks and coordinate systems for the construction area.
11. It is the intent of this project that all items of work include the materials, standards, trades, procedures, etc. customarily associated with the items of work, whether or not such materials, standards, trades, procedures, etc. are expressly stated. In case of ambiguity, unclearness or conflict in these Contract Documents, the matter shall be promptly submitted in writing for determination by

the Owner. The Owner will render in writing a clarification reasonably inferable from these Documents and consistent with the intent of this proposed work.

12. Contractor shall employ only experienced and qualified workers and subcontractors.

1.2 Contracts

A. Perform work under Lump Sum Contract.

1.3 Conditions of the Contract

A. The following Special Conditions also shall govern the work under each Section in the Technical Requirements.

1. Uninterrupted Operations. Work on this Project shall not interrupt or compromise the routine operations of the Owner unless specifically authorized by the Architect.
2. Experienced Supervision. Employ a competent Supervisor for work on this Project, approved by the Owner, skilled in coordination of the trades involved and the type of scheduling required by a project of this nature. Replace approved Supervisor only with the permission of the Owner.
3. Interrelation of Documents. The interrelation of the Specifications, the Drawings, and the Schedules are generally as follows:
   a. The Specifications determine the nature and setting of the several materials.
   b. The Drawings establish the quantities, dimensions, and details.
   c. The Schedules give locations.

   Anything mentioned in the Specifications and not shown on the Drawings and/or the Schedules, or shown in the Drawings and not mentioned in the Specifications, shall be of like effect as if shown or mentioned in both.

   Should there be a conflict within or among the Drawings or the Specifications or any other Contract Document, perform or furnish the better quality or greater quantity of work or materials. Figures given on details govern small scale drawings.

   The "Section Includes" statement, placed in the front of each Section of the Specifications, is intended to designate the scope and location of the work included therein, either generally or specifically. It is not intended to limit the Scope of Work should plans, schedules, or notes indicate an increased scope. Inadvertent omission of an item from its proper Section in the Specifications and its inclusion in another Section of the Specifications shall not relieve the Contractor of responsibilities for the item specified.
4. Contract Administration. The Architect has the authority to act on behalf of the Owner to the extent provided for in the Contract Documents, unless otherwise modified by written instrument which will be shown to the Contractor at his request.

   All instructions affecting Contract Sum, Contract Time, or Contract interpretations shall be confirmed expeditiously in writing, with copies furnished to the Owner's designated representative and the Contractor by the party issuing the instructions.
5. Conduct of the Contractor
   a. Type of Dress:
      1.) Workmen must wear shirts at all times.
      2.) Wearing apparel that portrays obscene or vulgar language and/or art work is prohibited.
   b. Alcoholic Beverages and Other Drugs:
      1.) Alcoholic beverages and other drugs will not be permitted on the property of the Owner.
      2.) Persons under the influence of alcoholic beverages and/or any other drug are prohibited from the Project.
      3.) Persons in possession of drug paraphernalia of any sort are prohibited from the Project.

c. Obscenity:
1.) The Owner reserves the right to require dismissal from the Project of any person using obscene gestures.
d. Smoking:
1.) No one may smoke on the Owner's property.
e. Portable Radios and Other Sound-Producing Devices:
1.) Hold the volume of portable radios or other sound-producing devices to such a level so that individuals not related to the construction are not disturbed.
2.) Do not broadcast obscenity.

1.4 Contractor Use of Premises

A. Confine operations at site to areas permitted by:
1. Law.
2. Ordinance.
3. Permits.
4. Contract Documents.

B. Limit use of site and premises to allow:
1. Uninterrupted Owner activity where required for Owner's business purposes.
2. Work by Others and Work by Owner.
3. Use of site and premises by public where required for Owner's business purposes.

C. Construction Operations:
1. Yard Operations and/or New Construction: Limited to areas noted on Drawings unless specifically approved otherwise by the Owner.
2. Protection:
a. Take over and assume responsibility for the premises necessary for each portion of the Work. Provide and maintain all protections required by governing laws, regulations, and ordinances. Be responsible for any loss or damage caused by workmen to the property of the Owner or to the work or materials installed. Make good any loss, damage, or injury without cost to the Owner.
b. The protection of adjacent property shall include, but will not necessarily be limited to, the erection and maintenance of shoring, underpinning, and fences as necessary to protect and to support existing work to be left in place.
c. Protect against damage to all trees and all shrubs on the site which do not have to be removed for the Work. Remove or trim any tree or shrub only with the specific approval of the Owner.
d. Send proper notices, make necessary arrangements, and perform other services required for the care, protection, and maintenance of utilities, including fire hydrants, piping, wires, and all other such items on and around the building site.
e. At no additional cost to the Owner, hold the Owner harmless from, and make good, any damage occurring as a result of the Contractor's failure to provide required protection.
3. Other:
a. No fires on the site.
b. No dumping on the Owner's property.
c. Do not unreasonably encumber site with materials or equipment.
d. Assume full responsibility for protection and safekeeping of products stored on premises.
e. Obtain and pay for use of additional storage or work areas needed for operations.

1.5 Concealed Piping and Conduit

A. Should active piping or conduit be encountered below grade or concealed by existing construction and be found at variance with the conditions indicated by the Drawings and Specifications, relocate such piping and/or conduit as directed by the Owner.

B. Contract Sum shall be adjusted on the following basis:

1. If the concealed condition would not reasonably be anticipated by a competent workman, the Contractor shall be fairly compensated as determined by the Owner.
2. If, in the judgment of the Owner, the concealed condition could reasonably be anticipated by a competent workman, it shall be understood that the conditions were provided for in the bid and no additional compensation shall be due the Contractor. The Contractor shall be responsible for properly remedying the condition in a manner acceptable to the Owner.
3. Compensation shall be net cost of labor and materials only.

C. Provide temporary support of active piping and conduit encountered until permanently supported or removed.

D. In all cases, conform to applicable requirements of the governing entities.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 Means and Methods

A. Unless otherwise expressly provided in the Contract Documents, the means and methods of construction shall be such as the Contractor may choose, subject, however, to the Owner's right to reject means and methods proposed by the Contractor which:

1. will constitute or create a hazard to the work or to persons or property; or
2. will not produce finished work in accordance with the terms of the Contract.

B. The Owner's acceptance of the Contractor's means and methods of construction or the Owner's failure to exercise his right to reject such means or methods shall not relieve the Contractor of his obligation to accomplish the result intended by the Contract; nor shall the exercise of such right to reject create a cause of action for damages.

3.2 Cleaning Up

A. Contractor shall clean the work area at the end of each work day.

END OF SECTION 01000

SECTION 01020
CASH ALLOWANCES

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. General Construction Contingency.
- B. Testing and inspection allowances.
- C. Miscellaneous Allowances.

1.2 CONTINGENCY ALLOWANCES
- A. Include in the Contract, a stipulated sum/price of
  1. Owner's Contingency Allowance in the amount of $5,000.00 for use upon Owner's written Allowance Expenditure Authorization.
- B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Allowance Expenditure Authorization of funds from this Contingency Allowance.
- C. Funds will be drawn from the Contingency Allowance only by Allowance Expenditure Authorization.
- D. At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order.

1.3 TESTING AND INSPECTION ALLOWANCES
- A. Not Used

1.4 MISCELLANEOUS ALLOWANCES
- A. Not Used.

1.5 COSTS INCLUDED IN ALLOWNCES
- A. Cost of product to Contractor or subcontractor, less applicable trade discounts.
- B. Delivery to site.
- C. Labor required under allowance, only when labor is specific to be included.
- D. Applicable taxes.

1.6 CONTRACTOR COSTS INCLUDED IN CONTRACT SUM
- A. Products handling at site, including unloading, uncrating and storage.
- B. Protection of products from elements and from damage.
- C. Labor for installation and finishing, except when installation is specified as part of allowance.
- D. Other expenses required to complete installation.
- E. Contractor overhead and profit.

1.7 ADJUSTMENT OF COSTS
- A. Should the net cost be more or less than the specified amount of the allowance, the Contract Sum will be adjusted accordingly by Change Order.
- B. Submit any claims for anticipated additional costs at the site, or other expenses caused b the selection under the allowance, prior to execution of the work.
- C. Submit documentation for actual additional costs the site, or other expense caused by selection under the allowance, prior to execution of the Work.
- D. Failure to submit claims within the designated time will constitute a waiver of claims for additional costs.

END OF SECTION

SECTION 01330
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Submittal procedures.
B. Construction progress schedules.
C. Proposed products list.
D. Product data.
E. Shop drawings.
F. Samples.
G. Design data.
H. Test reports.
I. Certificates.
J. Manufacturer's field reports.
K. Erection drawings.

1.2 SUBMITTAL PROCEDURES

A. Transmit each submittal with Architect/Engineer accepted form.
B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
C. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, as appropriate.
D. Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
E. Schedule submittals to expedite the Project, and deliver to Architect/Engineer at business address. Coordinate submission of related items.
F. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
G. Identify variations from Contract Documents and product or system limitations, which may be detrimental to successful performance of the completed work.
H. Provide space for Contractor and Architect/Engineer review stamps.
I. When revised for resubmission, identify all changes made since previous submission.
J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
K. Submittals not requested will not be recognized or processed.

1.3 CONSTRUCTION PROGRESS SCHEDULES

A. Submit preliminary outline Schedules within 15 days after date established in Notice to Proceed for coordination with Owner's requirements. After review, submit detailed schedules within 15 days modified to accommodate revisions recommended by Architect/Engineer.
B. Submit revised Progress Schedules with each Application for Payment.
C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.
D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
E. Submit a computer generated horizontal bar chart with separate line for each major portion of Work or operation, identifying first workday of each week.
F. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
G. Indicate estimated percentage of completion for each item of Work at each submission.
H. Provide separate schedule of submittal dates for shop drawings, product data, and samples, including products identified under Allowances, and dates reviewed submittals will be required from Architect/Engineer. Indicate decision dates for selection of finishes.
I. Indicate delivery dates for products identified under Allowances.

J. Revisions To Schedules:
1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
3. Provide narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect including the effect of changes on schedules of separate contractors.

1.4 PROPOSED PRODUCTS LIST

A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

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

1.5 PRODUCT DATA

A. Product Data: Submit to Architect/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents. Provide copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in this Section.

B. Submit the number of copies, which the Contractor requires, plus two copies, which will be retained by the Architect/Engineer.

C. Clearly mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

D. Show dimensions and clearances required.

E. Show performance characteristics and capacities.

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

G. After review distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01700.

1.6 SHOP DRAWINGS

A. Shop Drawings: Submit to Architect/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in this Section.

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

C. Original drawings prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate some portion of the work; showing fabrication layout, setting or erection details.

D. Prepared by qualified detailer.

E. Identify details by reference to sheet and detail numbers shown on contract drawings.

F. Submit in the form of one reproducible transparency and 3 opaque reproductions.

1.7 SAMPLES

A. Samples: Submit to Architect/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in this Section.

B. Samples For Selection as Specified in Product Sections:
1. Submit to Architect/Engineer for aesthetic, color, or finish selection.
2. Submit samples of finishes from the full range of manufacturers' standard colors, or in custom colors selected, textures, and patterns for Architect/Engineer Selection.

3. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents purposes described in this Section.

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

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

E. Samples are to be of sufficient size and quantity to clearly illustrate all components.

F. Construct samples complete including work of all trades required in finished work.

G. Submit the number of samples specified in individual specification sections; two of which will be Retained by Architect/Engineer.

H. Reviewed samples which may be used in the Work are indicated in individual specification Sections.

I. Samples will not be used for testing purposes unless specifically stated in the specification section.

1.8 DESIGN DATA

A. Submit for the Architect/Engineer's knowledge as contract administrator or for the Owner.

B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the Contract Documents.

1.9 TEST REPORTS

A. Submit for the Architect/Engineer's knowledge as contract administrator or for the Owner.

B. Submit test reports for information for the limited purpose of assessing conformance with information given and the design concept expressed in the Contract Documents.

1.10 CERTIFICATES

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

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

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

1.11 MANUFACTURER'S FIELD REPORTS

A. Submit reports for the Architect/Engineer's benefit as contract administrator or for the Owner.

B. Submit report in duplicate within 30 days of observation to Architect/Engineer for information.

C. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the Contract Documents.

1.12 ERECTION DRAWINGS

A. Submit drawings for the Architect/Engineer's benefit as contract administrator or for the Owner.

B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the Contract Documents.

C. Data indicating inappropriate or unacceptable Work may be subject to action by the Architect/Engineer or Owner.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01400
QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Quality control and control of installation.
B. Tolerances
C. References.
D. Mock-up requirements.
E. Testing and inspection services.
F. Manufacturers' field services.
G. Examination.
H. Preparation.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
B. Comply with manufacturers' instructions, including each step in sequence.
C. When manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
E. Perform Work by persons qualified to produce required and specified quality.
F. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.
B. Conform to reference standard by date of issue current on date of Contract Documents, except where specific date is established by code.
C. Obtain copies of standards where required by product specification sections.
D. When specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
E. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Architect/Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.

1.5 MOCK-UP REQUIREMENTS

A. Tests will be performed under provisions identified in this section and identified in respective product specification sections.

B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

C. Accepted mock-ups shall be comparison standard for remaining Work.

D. Where mock-up has been accepted by Architect/Engineer and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so by Architect/Engineer.

1.6 TESTING AND INSPECTION SERVICES

A. Owner will employ and pay for specified services of an independent firm to perform testing and inspection.

B. The independent firm will perform tests, inspections and other services specified in individual specification sections and as required by Architect/Engineer/Owner.

1. Laboratory: Authorized to operate in State of Texas.
2. Laboratory Staff: Maintain full time registered Engineer on staff to review services.
3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.

C. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing as required by Architect/Engineer or Owner.

D. Reports will be submitted by independent firm to Architect/Engineer and Contractor, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.

1. Notify Architect/Engineer and independent firm 24 hours prior to expected time for operations requiring services.
2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.

F. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

G. Re-testing or re-inspection required because of non-conformance to specified requirements should be performed by same independent firm on instructions by Architect/Engineer. Payment for re-testing or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum/Price.

H. Agency Responsibilities:

1. Test samples of mixes submitted by Contractor.
2. Provide qualified personnel at site. Cooperate with Architect/Engineer and Contractor in performance of services.
3. Perform specified sampling and testing of products in accordance with specified standards.
4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
5. Promptly notify Architect/Engineer and Contractor of observed irregularities or non-conformance of Work or products.
6. Perform additional tests required by Architect/Engineer.
7. Attend preconstruction meetings and progress meetings.

I. Agency Reports: After each test, promptly submit two copies of report to Architect/Engineer and to Contractor. When requested by Architect/Engineer, provide interpretation of test results. Include the following:
   1. Date issued.
   2. Project title and number.
   3. Name of inspector.
   4. Date and time of sampling or inspection.
   5. Identification of product and specifications section.
   6. Location in Project.
   7. Type of inspection or test.
   8. Date of test.
   9. Results of tests.
   10. Conformance with Contract Documents.

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

1.7 MANUFACTURERS' FIELD SERVICES

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

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

C. Refer to Section 01330 - SUBMITTAL PROCEDURES, MANUFACTURERS' FIELD REPORTS article.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.1 EXAMINATION

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

B. Verify utility services are available, of correct characteristics, and in correct locations.

3.2 PREPARATION

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

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

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

END OF SECTION

SECTION 01600
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Products.
B. Product delivery requirements.
C. Product storage and handling requirements.
D. Product options.
E. Product substitution procedures.

1.2 PRODUCTS

A. Within 30 days after date of Contract submit to Architect five copies of complete list of all products, which are proposed for installation.
   1. Tabulate list by each specification section.
   2. For products specified under Reference Standards include, with listing of each product:
      a. Name and address of Manufacturer
      b. Trade name
      c. Manufacturer's data
      d. Model or Catalog Designation
B. Provide products of qualified manufacturers suitable for intended use. Provide products of each type by a single manufacturer unless specified otherwise.
C. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
D. Provide interchangeable components of the same manufacturer for components being replaced.

1.3 PRODUCT DELIVERY REQUIREMENTS

A. Transport and handle products in accordance with manufacturers instructions.
B. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Store and protect products in accordance with manufacturers' instructions.
B. Store with seals and labels intact and legible.
C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
D. For exterior storage of fabricated products, place on sloped supports above ground.
E. Provide off-site storage and protection when site does not permit on-site storage or protection.
F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

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

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

C. Provision for Substitutions: Submit a request for substitution for any manufacturer not named in accordance with the following article.

1.6 PRODUCT SUBSTITUTION PROCEDURES

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

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

C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

D. A request constitutes a representation that the Bidder:

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

E. Substitutions <u>will not</u> be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

F. Substitution Submittal Procedure:

1. Submit five copies of request for Substitution for consideration. Limit each request to one proposed Substitution with a completed Request for Substitution Form - 01601.
2. Submit Shop Drawings, Product Data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
3. The Architect/Engineer will notify Contractor in writing of decision to accept or reject request. As indicated on the Request for Substitution Form.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

REQUEST FOR SUBSTITUTION **No:**_____

PROJECT: PROJECT NO:

FROM: DATE:

TO: City of Arlington
P. O Box 90231
ARLINGTON, TEXAS 76004-3231

_____Bidder _____Contractor _____Supplier _____Manufacturer

HEREBY REQUEST ACCEPTANCE OF THE FOLLOWING PRODUCT OR SYSTEMS AS A SUBSTITUTION IN ACCORDANCE WITH THE PROVISIONS OF SECTION 01600-PRODUCT REQUIREMENTS OF THE SPECIFICATIONS.

1. **SPECIFIED PRODUCT OR SYSTEM:**
Description:_____

Specification Section No._____ Sub section (s)_____

Paragraph(s)_____ Page Number (s)_____

2. **SUPPORTING DATA:**
_____Product data for proposed substitution is attached including they following:
A description of product, reference standards, performance and test data.

_____Sample is attached.

_____Sample will be sent if requested.

3. **QUALITY COMPARISON OF PRODUCT OR SYSTEM:**

	SPECIFIED PRODUCT	SUBSTITUTION
Name, Brand:	_____	_____
Catalog No.:	_____	_____

Manufacturer: _____ _____

Supplier/: _____ _____
Vendor
Significant
Variations: _____ _____
(Color,
finish, etc.) _____ _____

_____ _____

Maintenance Service Available: _____Yes _____No

Spare Parts Source:_____

4. **PREVIOUS INSTALLATIONS:** Attach list of local installations.

5. **REASON FOR NOT USING TO SPECIFIED ITEMS:**

_____

_____

6. **EFFECT OF SUBSTITUTION:**
Does proposed substitution affect other parts of work? _____Yes _____No

(If yes, explain)_____
_____

Change Contract Time: _____Yes Add/Deduct _____Days
_____No

Substitution requires dimensional revision or redesign of structure or M & E Work: _____Yes (If yes, attach data) _____No

Credit to Owner for accepting substitution: $_____

Extra Cost to Owner for accepting substitution: $_____

RFS No._____

7. STATEMENT OF CONFORMATION OF PROPOSED SUBSTITUTION TO CONTRACT REQUIREMENTS:
I/We have investigated the proposed substitution and:

a. believe that is equal or superior in all respects to specified product, except as stated above.
b. will provide the same warranty as specified for specified product;
c. have included complete cost data and implications of the substitution;
d. will pay redesign and special inspection costs caused by the use of this product;
e. will pay additional cost to other contractors caused by the substitution;
f. will coordinate and modify other parts of the work as may be needed, to make all parts of the work complete and functioning;
g. waive future claims for added cost to contract caused by the substitution;

Name and Title:_____ Date: _____

Signature_____

ARCHITECT'S REVIEW AND ACTION

_____ Resubmit Request for Substitution:
_____ Provide more information.
_____ Provide sample.

_____ Substitution is accepted.

_____ Substitution is accepted, with the following comments:_____

_____ Substitution is not accepted:_____

_____

_____

_____

By:_____ Date:_____

OWNER'S REVIEW AND ACTION

_____ Substitution is accepted.

_____ Substitution is accepted, with the following comments:

_____

_____

_____ Substitution is not accepted:_____

_____

_____

_____

By:_____ Date:_____

RFS No._____

SECTION 01700
EXECUTION REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Closeout procedures.
B. Final cleaning.
C. Starting of systems.
D. Demonstration and instructions.
E. Testing, adjusting and balancing.
F. Protecting installed construction.
G. Project record documents.
H. Operation and maintenance data.
I. Manual for materials and finishes.
J. Manual for equipment and systems.
K. Spare parts and maintenance products.
L. Product warranties and product bonds.
M. Maintenance service.

1.2 CLOSEOUT PROCEDURES

A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Construction Manager's review.
B. Provide submittals to Construction Manager that are required by governing or other authorities.
C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.3 FINAL CLEANING

A. Execute final cleaning prior to final project assessment.
B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
C. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
D. Replace filters of operating equipment.
E. Clean debris from roofs, gutters, downspouts, and drainage systems.
F. Clean site; sweep paved areas, rake clean landscaped surfaces.
G. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.4 STARTING OF SYSTEMS

A. Coordinate schedule for start-up of various equipment and systems.
B. Notify Construction Manager seven days prior to start-up of each item.
C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions, which may cause damage.

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

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

F. Execute start-up under supervision of applicable Subcontractors' personnel in accordance with manufacturers' instructions.

G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

H. Submit a written report in accordance with Section 01300 that equipment or system has been properly installed and is functioning correctly.

1.5 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of products to Owner's personnel two weeks prior to date of Substantial Completion.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

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

D. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed time at equipment location.

E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

F. The amount of time required for instruction on each item of equipment and system that is specified in individual sections.

G. Provide (2 copies) of video taped instruction on each item of equipment & systems that is specified in Division 15000, 16000 including A/V systems.

1.6 TESTING, ADJUSTING AND BALANCING

A. The independent firm will perform services specified.

B. Reports will be submitted by the independent firm to the Construction Manager indicating observations and results of tests and indicating compliance or non-compliance with the requirements of the Contract Documents.

1.7 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual specification sections.

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

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

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

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

1.8 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed Shop Drawings, Product Data, and Samples.
   6. Other Modifications to Contract
   7. Field Test Records.
   8. Manufacturer's instruction for assembly, installation, and adjusting.

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

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

D. Record information concurrent with construction progress, not less than weekly.

E. Label each document "Project Record" in two-inch high printed letters.

F. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.
   4. Other matters not originally specified.

G. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured depths of foundations in relation to finish main floor datum.
   2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   4. Field changes of dimension and detail.
   5. Changes made by change order or written directive.
   6. Details not on original Contract drawings.

H. Provide colored pencil for marking, conforming to the following color code:
   1. Red for Architectural Work
   2. Blue for Structural Work
   3. Green for Plumbing Work
   4. Orange for HVAC Work
   5. Brown for Electrical Work
   6. Black for other written notations

I. Submit documents to Construction Manager with claim for final Application for Payment.

1.9 OPERATION AND MAINTENANCE DATA

A. Submit data bound in 8-1/2 x 11 inch (A4) text pages, five D side ring binders with durable plastic covers.

B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.

C. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

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

E. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:

1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
   a) Significant design criteria.
   b) List of equipment.
   c) Parts list for each component.
   d) Operating instructions.
   e) Maintenance instructions for equipment and systems.
   f) Maintenance instructions for 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) Originals of warranties and bonds.

F. Submit draft copy of completed volumes 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Construction Manager comments. Revise content of all document sets as required prior to final submission.

G. Submit two sets of revised final volumes, within 10 days after final inspection.

H. Provide 2 copies of video taped instruction of initial instruction to the Owner.

1.10 MANUAL FOR MATERIALS AND FINISHES

A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Construction Manager 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 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Construction Manager 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 10 days after final inspection.

E. 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.

F. 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.

G. 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.

H. Additional Requirements: As specified in individual product specification sections.

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

1.11 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Construction Manager 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 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Construction Manager 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 10 days after final inspection.

E. 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.

F. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.

G. Include color-coded wiring diagrams as installed.

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

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

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

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

L. Include sequence of operation by controls manufacturer.

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

N. Provide control diagrams by controls manufacturer as installed.

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

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

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

R. Include test and balancing reports as specified in Section 01400.
S. Additional Requirements: As specified in individual product specification sections.
T. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.

1.12 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Provide spare parts, maintenance, and extra products in quantities specified in individual specification sections.
B. Deliver to Project site and place in location as directed; obtain receipt prior to final payment.

1.13 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Obtain warranties and bonds executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item of work.
B. Execute and assemble transferable warranty documents and bonds from subcontractors, suppliers, and manufacturers.
C. Verify that documents are in proper form, contain full information, and are notarized.
D. Co-execute submittals when required.
E. Provide Table of Contents and assemble in five D side ring binder with durable plastic cover.
F. Submit prior to final Application for Payment.
G. Time Of Submittals:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
   2. Make other submittals within ten days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within ten days after acceptance, listing the date of acceptance as the beginning of the warranty or bond period.

1.14 MAINTENANCE SERVICE

A. Furnish service and maintenance of components indicated in specification sections for year from date of Substantial Completion.
B. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
D. Maintenance service shall not be assigned or transferred to any agent or Subcontractor without prior written consent of the Owner.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

CITY OF ARLINGTON
CONSTRUCTION MANAGEMENT DIVISION
PROJECT CLOSEOUT DOCUMENTS

PROJECT: MECHANICAL MODIFICATIONS
TO ARLINGTON TENNIS CENTER OFFICES

	ITEM	✓	COMMENT
1.	Punch List		
2.	Certificate of Substantial Compl. (partial/final) G704	/	
3.	Cost Breakdown for Owner's Insurance Coverage		**For Owner use**
4.	Change Order (final) G701		
5.	Certificate of Occupancy		**Not required**
6.	Application/Certificate for Payment (final) G702		
7.	Payment of Debts & Claims G706		
8.	Release of Liens G706A		
9.	Surety Consent (partial/final) G707A/G707	/	
10.	Lien Releases: Subcontractors/Suppliers		
11.	Operation/Maintenance Instructions, Parts List		
12.	Submittal Log and Submittal Data		
13.	HVAC Test/Adjust/Balance Report with Statement of Consultant Review/Acceptance	/	
14.	Subcontractor List		
15.	Roofing Guarantee		**Not required**
16.	Record Drawings		
17.	Wage Rate Affidavit and Record of Wage Rates		
18.	Target Arlington Affidavit		
19.	Asbestos-Containing Materials Affidavit		
20.	TDLR/TAS Accessibility – Final Insp. And Letter		**Not required**

SECTION 06100
ROUGH CARPENTRY

PART 1 - GENERAL:

1.1 Description

A. The types of carpentry work specified in this section include, but are not limited to, the following:

1. Wood grounds, nailers, blocking and sleepers.
2. Miscellaneous wood framing
3. Temporary partitions.

1.2 Quality Assurance

A. Lumber:

1. Standard: PS-20
2. Grading rules:
   a) Southern Pine Association
   b) Western Wood Products Association

B. Plywood:

1. Softwood plywood - Standard PSI.

C. Grade Marks: Identify lumber and plywood by official grade mark.

1. Lumber: Grade mark shall contain symbol of grading agency, mill number or name, grade, species, and rules under which graded.
2. Plywood: Grade trademark shall contain type, grade, class and Identification Index.

D. Requirements of Regulatory Agencies:

1. Fire hazard classification: Underwriters Laboratories, Inc., for treated lumber and plywood.
2. Pressure treated material: American Wood Preservers Bureau Standards.

1.3 Submittals

A. Certification:

1. Pressure treated wood: Submit certification by treating plant stating chemicals and process used, net amount of salts retained, and conformance with applicable standards.
2. For water-borne preservatives, include statement that moisture content of treated materials was reduced to a maximum of 15% prior to shipment to project site.

1.4 Product Delivery, Storage, and Handling

A. Store materials a minimum of 6" above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation or ventilation.

B. Do not store seasoned materials in wet or damp portions of building.

C. Protect fire-retardant materials against high humidity and moisture during storage and erection.

D. Protect sheet materials from corners breaking and damaging surfaces, while unloading.

1.5 Job Conditions

Coordinate location of furring, nailers, blocking, grounds and similar supports so that attached work will comply with design requirements as detailed on the drawings and specified in various sections of the specifications.

PART 2 - PRODUCTS:

2.1 Materials

A. Lumber:

1. Where boards will be concealed by other work provide the following:

a) Moisture Content: 19% maximum, "S-DRY"
b) Provide one of the following:
(1) Southern Pine No. 2 Boards
(2) S4S No. 2 Douglas Fir

B. Miscellaneous Lumber:
1. Provide wood for support or attachment of other work such as cant strips, nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of sizes shown and worked to shapes as required.

C. Concealed Plywood:
1. Plywood concealed by applied exterior finish: C-D/INT-APA with exterior glue.
2. Interior concealed plywood: C-D plugged/INT-APA.

D. Exposed Plywood:
1. Interior: A-D/INT-APA

E. Temporary wall covering shall be 6 mil reinforced polyethylene.

F. Anchoring and Fastening Materials:
1. Select proper type, size, material and finish for each application. Comply with the following:
a) Nails and staples: FS FF-N-105B(3) AMD 4
b) Wood screws: FS FF-S-111D
c) Bolts and studs: FS FF-B-575C
d) Nuts: FS FF-N-836D(1)
e) Washers: FS FF-W-92B
f) Lag screws or lag bolts: FS FF-B-561C
g) Masonry Anchoring Devices: For expansion shields, nails and drive screws, comply with FS FF-S-325, INT AMD 3.
h) Toggle bolts: FS FF-B-588C(1)
i) Bar or strap anchors: ASTM A 575C carbon steel bars.
j) Expansion bolts: Hilti or equal.

2.2 Fabrication

A. Preservative Treated Wood Products:
1. Wood shall be treated to comply with applicable requirements of AWP Standards C2 (lumber) and C9 (plywood) and of AWPB Standards listed below. Mark each treated item with the AWPB Quality Mark Requirements.
2. Pressure-treat above-ground items with water-borne preservatives complying with AWPB LP-2. After treatment, kiln-dry to a maximum moisture content of 15%. Treat indicated items and the following:
a) Wood cants, nailers, curbs, blocking, stripping, and similar members in connection with roofing, flashing, and waterproofing.
b) Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
3. Complete fabrication of treated items prior to treatment, when possible. If cut after treatment, coat cut surfaces with heavy brush coat of same chemical used for treatment.

PART 3 - EXECUTION:

3.1 General

A. Discard units of material which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned or too small to fabricate work with a minimum of joints or optimum jointing arrangement.

B. Fit carpentry work to other work. Scribe and cope for accurate fit. Set accurately to required lines with members plumb and true.

C. Shim with metal or plastic shims for bearing on concrete and masonry substrates. Where indicated, grout with 1:3 Portland cement-sand grout for full-bearing.

D. Securely attach carpentry work to substrates by anchoring and fastening as shown and as required by recognized standards.
   1. Provide washers under bolt heads and nuts in contact with wood.
   2. Nail plywood in accordance with recommendations of the American Plywood Association.

E. Fasteners: Use common wire nails, except as otherwise shown or specified herein. Do not wax or lubricate fasteners that depend on friction for holding power. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; predrill as required. Do not drive threaded friction type fasteners; turn into place. Tighten bolts and lag screws at installation and retighten as required for tight connections prior to closing in or at completion of work. Nailing and spiking shall be done in a thorough manner with nails of ample size, using spikes larger than 20d where practicable.

3.2 Wood Grounds, Nailers, Blocking, and Sleepers

A. Coordinate location with other work; refer to shop drawings of such work.

B. Attach to substrates securely with anchor bolts or other attachment devices as shown and as required to support applied loading. Countersink bolts and nuts flush with surfaces. Build into masonry as work progresses, cutting to fit masonry unit size involved. Anchor to formwork before concrete placement.

C. The Contractor shall accomplish blocking as required to hold the work in proper position, including wood nailers and blocking in connection with the roof construction. Blocking shall be concealed when the finished work is in place.

3.3 Temporary Bracing and Centering

The Contractor shall furnish and set temporary bracing, closures, guardrails and centering as is required to complete the work of all trades. Temporary workmen protection devices shall be in complete compliance with OSHA regulations. Centering shall be maintained until the masonry is thoroughly set, and then shall be removed by Contractor.

3.4 Nailing and Bolting

A. Bolts shall be used at locations shown on the drawings or as specified. Where bolts are used, holes shall be bored only slightly larger than the size of the bolts. Where uncoated metal bolts are exposed, the threads shall be trimmed off after the nuts are firmly tightened.

B. Galvanized bolts shall be of the proper lengths so that they will not need to be cut off for appearance where exposed. Galvanized bolts shall be used at any location subject to weathering and when used in conjunction with preservative treated wood.

C. Nails and screws used in conjunction with preservative treated wood shall be galvanized.

D. Where nailing of members is not specifically mentioned, adequate nailing shall be provided, subject to approval of the Owner's Representative.

3.5 Rough Hardware

Provide and install rough hardware and metal fasteners as shown on drawings, specified herein, or required for proper installation of carpentry and architectural woodwork. Nails, spikes, screws, bolts, and other fastenings shall be of sizes and types required to rigidly secure members in place.

"END OF SECTION"

SECTION 06200
FINISH CARPENTRY

PART 1 GENERAL

1.1 Summary
- A. Section includes finish carpentry items; wood doorframes, glazed frames; wood casings and moldings; and hardware and attachment accessories.
- B. Related Sections:
  1. Section 06410 - Custom Cabinets: Shop fabricated custom cabinetwork.

1.2 References
- A. AHA A135.4 (American Hardboard Association) - Basic Hardboard.
- B. ANSI A208.1 - Wood Particleboard.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- D. AWI (Architectural Woodwork Institute) - Architectural Woodwork Quality Standards Illustrated.
- E. AWPA C1 (American Wood Preservers Association) - All Timber Products Preservative Treatment by Pressure Processes.
- F. BHMA A156.9 (Builders Hardware Manufacturers Association) - American National Standard for Cabinet Hardware.
- G. FS MMM-A-130 - Adhesive, Contact.
- H. HPVA HP-1 (Hardwood Plywood and Veneer Association) - Voluntary Standard for Hardwood and Decorative Plywood.
- .. NEMA LD 3 (National Electric Manufacturer's Association) - High Pressure Decorative Laminates.
- J. NWWDA I.S.4 (National Wood Window and Door Association) - Industry Standard for water-repellent Preservative Non-Pressure Treatment for Millwork.
- K. NBS PS 1 (National Institute of Standards and Technology) - Construction and Industrial Plywood.
- L. NBS PS 20 (National Institute of Standards and Technology) - American Softwood Lumber Standard.
- M. WIC (Woodwork Institute of California) - Manual of Millwork Standards of the Woodwork Industry.

1.3 Submittals
- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, accessories, to minimum scale of 1-1/2 inch to 1 ft.
- C. Product Data:
  1. Submit data on fire retardant treatment materials and application instructions.
  2. Submit data on attachment hardware, and finish hardware.
- D. Samples:
  1. Submit two samples of finish plywood, 8 X 10 inch in size illustrating wood grain and specified finish.
  2. Submit two samples of wood trim 10 inch long.
  3. Submit two samples of laminates, and hardware items.
- E. Certification: Submit copy of fabricator's authorization to use AWI Grade Stamps.

1.4 Quality Assurance
- A. Perform work in accordance with AWI (Architectural Woodwork Institute) Architectural Woodwork Quality Standards Illustrated, Premium Grade.

1.5 Qualifications
- A. Fabricator: Company specializing in fabricating Products specified in this section with minimum three years experience.

1.6 Delivery, Storage, And Handling
- A. Section 01600 - Product Requirements: Product storage and handling requirements. Protect work from moisture damage.

1.7 Field Measurements
- A. Verify field measurements prior to fabrication.

1.8 Sequencing
A. Section 01100 - Summary: Work sequence.
B. Sequence work to ensure utility connections are achieved in orderly and expeditious manner.

1.9 Coordination
A. Section 01300 - Administrative Requirements: Coordination and project conditions.
B. Coordinate work with plumbing rough in, electrical rough in, and installation of associated and adjacent components.

PART 2 PRODUCTS

2.1 Components
A. Softwood Lumber: PS20. AWI Grade I maximum moisture content of 6-8 percent; and the following:
1. Species of Wood: Douglas fir.
2. Cut or Slicing of Wood: Plain.
3. Matching of Individual leaves to each other: book matching.
B. Softwood Plywood: PS 1 Grade C-D softwood plywood. AWI Grade B veneer; WIC Premium veneer; with particleboard core; type of glue recommended for application; and the following:
1. Species of Veneer: Douglas fir.
2. Cut or Slicing of Veneer: Plain.
3. Matching of Individual leaves to each other: book matching.
4. Matching Across Panel Face: running matching.
5. Matching or Relationship of Panels to Each Other: pre-manufactured sets matching.
C. High Pressure Decorative Laminate: NEMA LD 3, GP50 for horizontal surfaces, GP28 for vertical surfaces, CL20 for cabinet liner surfaces, BK20 for undecorated backing sheets, PF42 for post forming, FR50 for fire-retardant surfaces; through color, pattern, and matte surface texture as selected.
D. Wood Particleboard: ANSI A208.1 Type 1, 2; composed of wood chips or sawdust, medium density, made with water-resistant adhesive; sanded faces.
E. Hardboard: AHA A135.4; Pressed wood fiber with resin binder, standard grade, and ¼ inch thick, smooth one side.
F. Sheet Metal Components: Stainless steel, Type 304 with #4 satin finish.

2.2 Accessories
A. Adhesive for High Pressure Decorative Laminates: Type recommended by laminate manufacturer to suit application.
B. Fasteners: Of size and type to suit application.
C. Concealed Joint Fasteners: Threaded steel.
D. Lumber for Shimming, Blocking, and Softwood lumber of Douglas fir species.
E. Veneer Edge Band: Standard wood veneer edge band matching face veneer.
F. Primer: Alkyd primer sealer.
G. Wood Filler: Solvent Oil base, tinted to match surface finish color.
H. Wood Treatment:
1. Fire Retardant (FR-S Type): Chemically treated and pressure impregnated; capable of providing maximum flame spread/smoke development rating of to meet ASTM E84.
2. Wood Preservative by Pressure Treatment (PT Type): AWPA Treatment C1 using water borne preservative with 0.25-lbs/cu ft retention.
3. Water Repellant Preservative Treatment by Dipping Method: NWWDA I.S.4, with 0.25 cubic lbs/in/ft of chromate copper arsenate.
4. Wood Preservative (Surface Application): Clear type.
5. Shop pressure treat treatment to wood materials requiring fire rating to concealed wood blocking.
6. Provide identification on fire retardant treated material.
7. Deliver fire retardant treated materials cut to required sizes. Minimize field cutting.

2.3 Fabrication
A. Fabricate to AWI Premium standards.

B. Shop assemble work for delivery to site, permitting passage through building openings.
C. Fit exposed sheet material edges with matching hardwood edging. Use one piece for full length only.
D. Cap exposed high-pressure decorative laminate finish edges with material of same finish and pattern.
E. Shop prepare and identify components for book match grain matching during site erection. When necessary to cut and fit on site, fabricate materials with ample allowance for cutting. Furnish trim for scribing and site cutting.
F. Apply high-pressure decorative laminate finish in full-uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners.
G. Apply laminate backing sheet to reverse face of high-pressure decorative laminate finished surfaces.

2.4 Shop Finishing
A. Sand work smooth and set exposed nails and screws.
B. Apply wood filler in exposed nail and screw indentations.
C. On items to receive transparent finishes, use wood filler matching surrounding surfaces and of types recommended for applied finishes.
D. Stain, seal, and varnish exposed to view surfaces.
E. Seal internal surfaces and semi-concealed surfaces.
F. Prime paint surfaces in contact with cementitious materials.

PART 3 EXECUTION

3.1 Examination
A. Section 01300 - Administrative Requirements: Coordination and project conditions.
B. Verify adequacy of backing and support framing.
C. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.2 Existing Work
A. Modify and extend existing finish carpentry installations using materials and methods as specified.

3.3 Installation
A. Install work in accordance with AWI Premium quality standard.
B. Set and secure materials and components in place, plumb and level.
C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.
D. Install components and trim with nails.
E. Preparation For Site Finishing:
1. Set exposed fasteners. Apply wood filler in exposed fastener indentations: Sand work smooth.
2. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.4 Erection Tolerances
A. Section 01400 - Quality Requirements: Tolerances.
B. Maximum Variation from Indicated Position: 1/16 inch.
C. Maximum Offset from Alignment with Abutting Materials: 1/32 inch.

END OF SECTION

SECTION 06410
CUSTOM CABINETS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes custom-fabricated cabinet units; counter tops; cabinet hardware; preparation for installing utilities in cabinets; and finishing.

B. Related Sections:

1. Section 06100 – Rough Carpentry: Grounds and support framing.
2. Section 06200 - Finish Carpentry: Related trim not specified in this section.

1.2 REFERENCES

A. ANSI A208.1 - Mat Formed Wood Particleboard.

B. AWI (Architectural Woodwork Institute) - Architectural Woodwork Quality Standards Illustrated.

C. BHMA A156.9 (Builders Hardware Manufacturers Association) - Cabinet Hardware.

D. NEMA LD3 (National Electric Manufacturers Association) - High Pressure Decorative Laminates.

E. FS MMM-A-130 - Adhesive, Contact.

F. WIC (Woodwork Institute of California) - Manual of Millwork Standards of the Woodwork Industry.

1.3 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate materials, component profiles and elevations, assembly methods, joint details, fastening methods, accessory listings, hardware location and schedule of finishes.

C. Product Data: Submit data for hardware accessories.

D. Samples:

1. Submit two, 8 x 10 inch size samples, illustrating cabinet finish.
2. Submit two, 8 x10 inch size samples, illustrating counter top finish.
3. Submit two samples of drawer pulls and hinges, illustrating hardware finish.

1.4 QUALITY ASSURANCE

A. Perform work in accordance with AWI (Architectural Woodwork Institute) Architectural Woodwork Quality Standards Illustrated, Custom Grade.

1.5 QUALIFICATIONS

A. Fabricator: Company specializing in performing Work of this section with minimum three years experience.

B. Fabricator: Authorized to use AWI Grade Stamps.

1.6 MOCKUP

A. Section 01400 - Quality Requirements: Mockup requirements.

B. Construct mockup of full size base cabinet and upper cabinet including hardware, accessories, and fitments.

C. Locate where directed by Architect/Engineer.

D. Incorporate accepted mockup as part of Work.

1.7 PRE-INSTALLATION MEETING

A. Section 01300 - Administrative Requirements: Preinstallation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Section 01600 - Product Requirements: Product storage and handling

requirements.

B. Protect units from moisture damage.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements.

B. During and after installation of Work of this section, maintain same temperature and humidity conditions in building spaces as will occur after occupancy.

1.10 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

PART 2 PRODUCTS

2.1 COMPONENTS

A. Hardwood Lumber: AWI Grade II, maximum moisture content of 6-8 percent; and the following:
   1. Species of Wood: Oak.
   2. Cut or Slicing of Wood: Quarter slicing.
   3. Matching of Individual Leaves to Each Other: book matching.

B. Hardwood Plywood: AWI Grade A veneer; with particleboard lumber core; type of glue recommended for application; and the following:
   1. Species of Veneer: Oak.
   2. Cut or Slicing of Veneer: Quarter slicing.
   3. Matching of Individual Leaves to Each Other: book matching.
   4. Matching Across the Panel Face: center balanced matching.
   5. Matching or Relationship of Panels to Each Other: sequence matched uniform size sets matching.

C. Wood Particleboard: Not used.

D. High Pressure Decorative Laminate: NEMA LD 3, GP50 for horizontal surfaces, GP28 for vertical surfaces, CL20 for cabinet liner surfaces, BK20 for undecorated backing sheets, PF42 for post forming, FR50 for Fire-Retardant Surfaces; through, color, pattern, and matte surface texture as selected.

2.2 ACCESSORIES

A. Adhesive for High Pressure Decorative Laminates: Type recommended by laminate manufacturer to suit application.

B. Veneer Edge Band: Standard wood veneer edge band matching face veneer.

C. Plastic Edge Trim: Extruded flat shaped; smooth finish; self-locking serrated tongue; of width to match component thickness; color as selected.

D. Fasteners: Size and type to suit application.

E. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application.

F. Concealed Joint Fasteners: Threaded steel.

G. Grommets: Plastic material for cutouts. Colors as selected by Architect.

H. Shelf Standards and Rests: Formed steel channels and rests, cut for fitted rests spaced at 1 inch centers; satin finish; manufactured by Knapp and Vaught.

I. Shelf Brackets: Formed steel brackets, formed for attachment with lugs; satin finish.

I. Drawer and Door Pulls: Extruded aluminum pull, full width of drawer, satin finish, and 4-inch centers.

K. Cabinet Locks: Heavy duty keyed cylinder, two keys for each lock, master keyed, steel with satin finish. Verify locking with Construction Manager.

L. Catches: Magnetic.

M. Drawer Slides: Galvanized steel construction, ball bearings separating tracks, full extension type. #1300 style finish as selected by Architect; manufactured by Knapp and Vought.

M. Pulls: 548-style finish as selected by Architect; manufactured by Hewi, Inc.

N. Hinges: 11/2 pair SSP61-253-708 (1 Pair SS61-253-7-08at doors less than 3'-0" high) style and finish as selected by Architect, manufactured by MFPLA.

2.3 FABRICATION

A. Shop assemble casework for delivery to site in units easily handled and to permit passage through building openings.

B. Fit shelves, doors, and exposed edges with matching veneer edging. Use one piece for full length only.

C. Cap exposed high-pressure decorative laminate finish edges with material of same finish and pattern.

D. Door and Drawer Fronts: 3/4 inch thick; flush style.

E. When necessary to cut and fit on site, fabricate materials with ample allowance for cutting. Furnish trim for scribing and site cutting.

F. Apply high-pressure decorative laminate finish in full-uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Locate counter butt joints minimum 2 feet from sink cutouts.

G. Apply wood laminate by grain matching adjacent sheets to book matching.

H. Apply laminate backing sheet to reverse side of plastic and wood laminate finished surfaces.

I. Fabricate cabinets and counter tops with cutouts for plumbing fixtures, inserts, outlet boxes, fixtures and fittings. Verify locations of cutouts from on-site dimensions. Seal cut edges.

2.4 SHOP FINISHING

A. Sand work smooth and set exposed nails and screws.

B. Apply wood filler in exposed nail and screw indentations.

C. On items to receive transparent finishes, use wood filler matching surrounding surfaces and of types recommended for applied finishes.

D. Finish in accordance with Section 09900.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify adequacy of backing and support framing.

C. Verify location and sizes of utility rough in associated with work of this section.

3.2 INSTALLATION

A. Set and secure casework in place; rigid, plumb, and level.

B. Use fixture attachments in concealed locations for wall mounted components.

C. Use concealed joint fasteners to align and secure adjoining cabinet units and counter tops.

D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.

E. Secure cabinet and counter bases to floor using appropriate angles and anchorages.

F. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

3.3 ADJUSTING

A. Section 01700 - Execution Requirements: Testing, adjusting and balancing.

B. Adjust moving or operating parts to function smoothly and correctly.

3.4 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

SECTION 07210
BUILDING INSULATION

PART 1 GENERAL

1.1 Description:
- A. Work Included:
  1. Ceilings
  2. Sound Attenuation
- B. Related Work: Section 09510 Suspended Acoustical Ceiling
  Section 09260 Gypsum Board Assemblies

1.2 References:
- A. American Society for Testing and materials (ASTM):
  1. ASTM C 518 – Test Method for Steady-State Heat Flux measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
  2. ASTM C 578 – Specification for Rigid, Cellular Polystyrene Thermal Insulation
  3. ASTM C 665 – Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
  4. ASTM E 84 – Test Method for Surface Burning Characteristics of Building Materials.
  5. ASTM E 119 – Test Methods for Fire Tests of Building Construction and Materials.

1.3 Product Handling:
- A. Protection:
  1. Deliver materials to site, store in dry place with labels intact.
  2. Protect materials before, during, and after installation.
  3. Protect installed work of other trades.
- B. Replacements: In event of damage, make necessary repairs and replacements.

1.4 Submittals:
- A. Section 01330 – Submittal Procedures.

PART 2 PRODUCTS

2.1 Manufacturers:
- A. Manville Building Materials
- B. Owens Corning Fiberglass Corp
- C. Celotex
- D. U.S. Gypsum Co.
- E. Approved Equal

2.2 Batt Thermal Insulation: ***NOT APPLICABLE***
- A. Glass Fiber composition, unfaced, or with integral foil faced fire retardant vapor barrier where foil faced gypsum board is not used, minimum one lb./c.f. density, meeting the following standards:
  1. ASTM E-84: FHC 25/50 maximum
  2. ASTM C-518: R value of 3.2 per inch of thickness.
  3. ASTM C-665: Type 1 and Type III, Class A.

2.2 Sound Attenuation:
- A. unfaced glass fiber composition, 3 ½" thick, minimum one lb./c.f. density, meeting the following standards:
  1. ASTM E-84: FHC 25/50 maximum
  2. ASTM C-518: R value of 3.2 per inch of thickness.
  3. ASTM C-665: Type 1, Class A

2.3 Rigid insulation: ***NOT APPLICABLE***

A. 1" thick rigid, preformed, foil faced polyisocyanurate foam thermal insulation board, with flame spread rating of 30 or less and thermal resistance R 7.2, Thermax Insulation Board as manufactured by Celotex.

2.4 Safing Insulation: ***NOT APPLICABLE***

A. Mineral fiber composition, 4" thick, 4.0 pcf density, meeting following standards:
   1. ASTM E-84: FHC 15/10 maximum
   2. ASTM C-518: R-value of 3.2 per inch of thickness.
   3. ASTM E-119: Testing procedures
   4. FS HH-1-558B: Class 1 & 2

2.4 Mastic:

A. As recommended by Insulation manufacturer.

2.5 Accessories:

A. Joint tape, insulation adhesive: as recommended by insulation manufacturer.

B. Stick clips:
   1. Galvanized sheet metal with impaling pins and retainer washers.
   2. Size and type to suit application and insulation thickness.
   3. Approved by manufacturer

C. Stick Clip Adhesive
   1. Compatible with insulation adhesive, insulation and substrate.
   2. Non-corrosive to galvanized steel.

D. Supportive Wire Mesh: Hexagonal design, woven mesh "chicken wire" style.

E. Tie wire: Minimum 18 ga. Annealed wire.

PART 3 EXECUTION

3.1 Surface Conditions

A. Inspection:
   1. Prior to work of this Section, inspect installed work and verify that this installation may properly commence.
   2. Verify that insulation may be installed in accordance with original design and manufacturer's recommendations.

B. Discrepancies:
   1. In event of discrepancy, notify Architect.
   2. Do not proceed until discrepancies have been resolved.

3.2 Installation:

A. General: Install insulation in accordance with manufacturer's current edition of insulation application instructions.

3.3 Inspection:

A. Verify that all insulation work is properly installed and complete.

END OF SECTION

SECTION 07900
JOINT SEALANTS

PART 1 GENERAL

1.1 Description

A. Work Included:

1. Caulking and sealants in this work are to provide a positive barrier against penetration of air and moisture at joints between elements.
2. Caulking and sealants may be indicated in various sections of the specifications but shall be performed in accordance with the provisions of this Section.

B. Related Work Described Elsewhere: Requirements for caulking and sealants are described in various sections of the specifications.

1.2 Quality Assurance

A. Qualifications of Applicators: Work shall be performed by workmen skilled and trained in the techniques of caulking, and completely familiar with published recommendations of the manufacturer of the materials being used.

B. Rejection of Installed Work: Lack of skill on the part of installers shall be sufficient grounds to reject installation and require immediate removal and reinstallation at no cost to Owner.

1.3 Product Handling

A. Protection:

1. Protect materials before, during and after installation.
2. Protect installed work and materials of other trades.

B. Replacement: In event of damage, make necessary repairs and replacements.

C. Storage

1. Store materials and equipment under conditions recommended by manufacturer.
2. Do not use materials stored for a period of time exceeding recommended shelf-life of material.

PART 2 PRODUCTS

2.1 Materials

Caulking and sealants, unless otherwise specifically approved by the Architect, shall be single or double component, non-sagging type in neutral color or other approved color where exposed to view, and shall be one of the following or an equal approved in advance of the bidding.

A. Sealants:

1. 790 Building Sealant: Dow Corning
2. G.E. Silpruf: General Electric
3. 864 Sealant: Pecora Corporation
4. Sonolastic Sealant: Sonneborn

5. Install at exterior doors, glass frames, (both interior and exterior of frames) exterior louvers, windows, exterior joints in walls and other locations where indicated or required to provide weathertight joints.

B. Caulking:
1. Acrylic Latex: DAP
2. AC-20 Acrylic Latex Caulk: Pecora Corporation
3. Sonolac: Sonneborn
4. Install at all interior locations where noted as "caulk" or required to provide a neat joint.

2.2 Equipment

As is specifically recommended by the manufacturer of the materials being installed.

PART 3 EXECUTION

3.1 Surface Conditions

A. Inspection:
1. Inspect installed work of other trades and verify that work is proper for installation to commence.
2. Verify that work may be installed in accordance with manufacturer's recommendations.

B. Discrepancies:
1. In event of discrepancy notify Architect.
2. Do not proceed until discrepancies have been resolved.

3.2 Choice of Material

Use only materials recommended by the manufacturer as best suited for the installation.

3.3 Back-up Materials

A. General:
1. Verify compatibility of filler material with caulking or sealant.
2. Use filler about 1/3 to 1/2 wider than joint so sufficient pressure is exerted by filler to provide resistance to displacement.

B. Acceptable Materials: Filler materials shall be non-oily and non-staining and one of those listed below or other filler completely compatible with caulking material.

3.4 Application

A. Install in accordance with manufacturer's recommendations.
1. Produce beads of proper width and depth.
2. Tool as recommended by manufacturer.
3. Remove surplus materials.

B. Study drawings and furnish and install proper materials at each point where called for on the drawings plus all other points essential to continued integrity of the watertight barrier.

END OF SECTION

SECTION 08520
ALUMINUM WINDOWS

PART 1 GENERAL

1.1 SUMMARY

A. Section includes extruded aluminum windows with fixed sash; factory glazed including infill panels.

B. Related Sections:

1. Section 07900 - Joint Sealers: Perimeter sealant and back-up materials.
2. Section 08800 - Glazing.

1.2 REFERENCES

A. AA (Aluminum Association) - Designation System for Aluminum Finishes.

B. AAMA 603.8 (American Architectural Manufacturers Association) - Performance Requirements and Test Procedures for Pigmented Organic Coatings on Extruded Aluminum.

C. AAMA 605.2 (American Architectural Manufacturers Association) - Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.

D. AAMA 611 (American Architectural Manufacturers Association) - Standards for Anodized Architectural Aluminum.

E. ANSI/AAMA 101 (American Architectural Manufacturers Association) - Aluminum and Poly (Vinyl Chloride) (PVC) Prime Windows and Glass Doors.

F. ASTM A123 - Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products.

G. ASTM B209 - Aluminum and Aluminum-Alloy Sheet and Plate.

H. ASTM B209M - Aluminum and Aluminum-Alloy Sheet and Plate (Metric).

I. ASTM B221 - Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.

J. ASTM B221M - Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes (Metric).

K. ASTM F588 - Resistance of Window Assemblies to Forced Entry Excluding Glazing.

1.3 SYSTEM DESCRIPTION

A. Windows: Tubular Single thickness aluminum sections, factory fabricated, factory finished, anchorage and attachment devices for Interior Window application.

B. Configuration: Conform with ANSI/AAMA 101 Designations for windows required for Project; F-fixed non-operable, sash.

C. Glazing: Center.

D. Forced Entry Resistance: Conform to ASTM F588 Type A & E.

1.4 PERFORMANCE REQUIREMENTS

A. Primary Performance Requirements: Aluminum windows to meet performance criteria for ANSI/AAMA 101 Designation C20 Commercial C30 Commercial HC40 Heavy Commercial or better.

B. System Design: Design and size components to withstand dead loads and live loads caused by positive and negative wind loads acting normal to plane of wall as calculated in accordance with ASCE 7 - Calculation of Wind Loads to design pressure of 20 lb/sq. ft as measured in accordance with ASTM E330.

C. Deflection: Limit member deflection to 1/175 of longer dimension with full recovery of glazing materials.

D. Assembly: To accommodate, without damage to components or deterioration of seals, movement between window and perimeter framing, deflection of lintel.

E. Thermal Transmittance of Assembly: Maximum U Value of 0.69 Btu/sq ft per hour per deg F when measured in accordance with AAMA 1503.1.

F. Air Infiltration: Limit air infiltration through assembly to 0.3 cfm/min/sq ft of wall area, measured at reference differential pressure across assembly of 1.57 psf as measured in accordance with ASTM E283.

G. Vapor Seal: Limit vapor seal with interior atmospheric pressure of 1 inch sp, 72 degrees F, 40 percent RH without seal failure.

H. Condensation Resistance Factor: CRF of not less than 50 when measured in accordance with AAMA 1503.1.

I. System Internal Drainage: Drain water entering joints, condensation occurring in glazing channels, and migrating moisture occurring within system, to exterior by weep drainage network.

J. Air and Vapor Seal: Maintain continuous air barrier and vapor retarder throughout assembly, primarily in line with inside pane of glass and heel bead of glazing compound. Position thermal insulation on exterior surface of air barrier and vapor retarder.

1.5 SUBMITTALS

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate opening dimensions, framed opening tolerances, affected related Work; and installation requirements.

C. Product Data: Submit component dimensions, anchorage and fasteners, glass, internal drainage, and typical details.

D. Samples: Submit two 12 X 12 inches in size illustrating window frame section mullion section, factory finished aluminum surfaces, glazing materials.

E. Manufacturer's Certificates: Certify Product performance ratings by independent third party such as AAMA, CAWM, or NFRC as meeting or exceeding specified requirements.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with the following:

1. Aluminum Windows: Fabricate window assemblies in accordance with ANSI/AAMA 101 for types of windows required.
2. Maintain one copy of each document on site.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing commercial aluminum windows with minimum three years documented experience, and with service facilities within 100 miles of Project.

B. Installer: Company specializing in installation of commercial aluminum windows with minimum three years documented experience.

1.8 DELIVERY, STORAGE, AND PROTECTION

A. Section 01600 - Product Requirements: Product storage and handling requirements.

B. Handle Work of this section in accordance with AAMA - Curtain Wall Manual #10.

C. Protect factory finished aluminum surfaces with wrapping strippable coating. Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Section 01600 - Product Requirements.

B. Do not install glazing materials when ambient temperature is less than 40

degrees F.

C. Maintain this minimum temperature during and after installation of glazing materials.

1.10 WARRANTY

A. Section 01700 - Execution Requirements: Product warranties and product bonds.

B. Furnish five-year manufacturer warranty for insulated glass units from seal failure, interpane dusting or misting, and replacement of same.

C. Warranty: Include coverage for degradation of color finish.

PART 2 PRODUCTS

2.1 ALUMINUM WINDOWS

A. Manufacturers:

1. Kawneer Co., Inc. Model TRIFAB VG451centerplane 2.
2. Or Approved equal
3. Substitutions: Section 01600 - Product Requirements.

B. Furnish materials in accordance with State Texas Highways Public Work's standards.

C. Product Description: Aluminum windows non-thermally broken; applied glass stops of snap-on screw fastened type.

1. Reinforced Mullion: Extruded aluminum with integral reinforcement of shaped steel aluminum structural section.

2.2 COMPONENTS

A. Extruded Aluminum: ASTM B221 ASTM B221M; 6063 alloy, T5 temper.

B. Sheet Aluminum: ASTM B209 ASTM B209M; 5005 alloy, H15 or H34 temper.

C. Steel Sections: Profiled to suit mullion sections.

2.3 ACCESSORIES

A. Fasteners and Anchors: Stainless Galvanized steel.

B. Visual Glass Dividers: Formed aluminum plastic, fitted against interior of glazed surface, secured with spring loaded steel pins into plastic sockets.

C. Bituminous Paint: Fibered asphaltic type.

2.4 FABRICATION

A. Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.

B. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.

C. Prepare components to receive anchor devices. Fabricate anchors.

D. Arrange fasteners and attachments to ensure concealment from view.

E. Prepare components with internal reinforcement for operating hardware.

F. Furnish internal reinforcement in mullions with galvanized primed steel members to maintain rigidity.

G. Permit internal drainage weep holes and channels to migrate moisture to exterior. Furnish internal drainage of glazing spaces to exterior through weep holes.

H. Factory glaze window units. Install glass in accordance with Section 08800, to glazing method required to achieve performance criteria exterior wet/dry method of glazing.

2.5 SHOP FINISHING

A. Finish Coatings: Conform to AAMA 611.

B. Dark Bronze Anodized Aluminum Surfaces: AA-M12C22A41 non-specular as fabricated mechanical finish, medium matte chemical finish, and Architectural Class I 0.7 mils clear anodized coating.

C. Apply coat of bituminous paint on concealed aluminum surfaces in contact with cementitious or dissimilar materials.

D. Touch-Up Primer for Galvanized Steel Surfaces: SSPC Paint 20 zinc rich.

E. Concealed Steel Items: Galvanized in accordance with ASTM A123 to thickness Grade 85, 2.0 oz/sq. ft.

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01300 - Administrative Requirements: Coordination and project conditions.

B. Verify wall openings and adjoining air and vapor seal materials are ready to receive Work of this section.

3.2 INSTALLATION

A. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.

B. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent Work.

C. Install sill and sill end angles.

D. Install thermal isolation where components penetrate or disrupt building insulation. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

E. Coordinate attachment and seal of perimeter air barrier and vapor retarder materials.

F. Install operating hardware.

3.3 ERECTION TOLERANCES

A. Section 01400 - Quality Requirements: Tolerances.

B. Maximum Variation from Level or Plumb: 1/16 inches every 3 ft non-cumulative or 1.8 inches per 10 ft, whichever is less.

3.4 ADJUSTING

A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.

B. Adjust hardware for smooth operation and secure weathertight closure.

3.5 CLEANING

A. Section 01700 - Execution Requirements: Final cleaning.

B. Remove protective material from factory finished aluminum surfaces.

C. Wash surfaces by method recommended and acceptable to sealant and window manufacturer; rinse and wipe surfaces clean.

D. Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant and window manufacturer.

3.6 SCHEDULES

A. Refer to drawings.

END OF SECTION

SECTION 08800
GLAZING

PART 1 GENERAL

1.1 Description

A. Work included: Glass and glazing required for this work

B. B. Related Sections:

1. Section 08520 – Aluminum Windows

1.2 Quality Assurance

A. Qualifications of Installers: Provide at least one person thoroughly trained and experience in skills required, who shall be completely familiar with reference standards and requirements of this work, and who shall personally direct installation performed under this Section of these Specifications.

B. Codes and Standards:

1. Comply with pertinent codes and regulations.
2. Comply with Federal Safety Standards 16CFR 1201.
3. Comply with the International Energy Conservation Code.

1.3 Product Handling

A. Protection:

1. Protect glass and glazing materials before, during and after installation.
2. Protect the installed work and materials of other trades.

B. Replacements: In the event of damage, make repairs and replacements necessary and at no additional cost to the Owner.

PART 2 PRODUCTS

2.1 Glass

A. General:

1. Glass shall bear label of manufacturer.
2. It shall conform to pertinent requirements of Federal Specification DD-G-451d.
3. It shall be relatively distortion free with all distortion waves in the horizontal direction.

B. Qualities:

1. Laminated Glass: 1-inch thick; STC rating: STC-41 (minimum)

2.2 Glazing Accessories:

Accessories shall be new, first quality of their respective kinds, of the type recommended by the glazing manufacturer and subject to the approval of the Architect.

PART 3 EXECUTION

3.1 Surface Conditions

A. Inspection:

1. Inspect installed work of other trades and verify that such work is complete to the point where this installation may properly commence.
2. Verify that glazing may be performed in accordance with all pertinent codes and regulations, the original design and the referenced standards.

B. Discrepancies:

1. In the event of discrepancy, notify the Construction Manager.
2. Do not proceed with installation until discrepancies have been resolved.

3.2 Glazing

Set glass in a true plane, tight and straight, with proper and adequate clearance, firmly anchored to prevent rattling and looseness, with all edges cleanly cut. Do not nip or seam the edges.

3.3 Cleaning Up

Upon completion of glazing, clean all glass surfaces, correct all imperfections, replace damaged glass, and leave labels on the glass until they have been inspected and approved by the Construction Manager, but remove all labels immediately thereafter.

END OF SECTION

SECTION 09260
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.1 Summary

A. Section includes metal stud wall framing; metal channel ceiling framing; gypsum board and joint treatment; gypsum sheathing; cementitious backer board; acoustic insulation; and textured finish.

B. Related Sections:

1. Section 07210 – Building Insulation

1.2 References

A. ASTM C36 - Gypsum Wallboard.

B. ASTM C79 - Gypsum Sheathing Board.

C. ASTM C442 - Gypsum Backing Board and Coreboard.

D. ASTM C475 - Joint Compound and Joint Tape for Finishing Gypsum Board.

E. ASTM C514 - Nails for Application of Gypsum Wallboard.

F. ASTM C630 - Water-Resistant Gypsum Backing Board.

G. ASTM C645 - Non-Load Bearing (Axial) Steel Studs, Runners (Track), and Rigid Furring Channels for Screw Application of Gypsum Board.

H. ASTM C754 - Installation of Steel Framing Members to Receive Screw-Attached Gypsum Board.

I. ASTM C840 - Application and Finishing of Gypsum Board.

J. ASTM C1002 - Steel Drill Screws for Application of Gypsum Board or Metal Plaster Bases.

K. ASTM C1280 - Application of Gypsum Sheathing Board.

L. ASTM E90 - Test Method for Laboratory Measurement of Airborne-Sound Transmission Loss of Building Partitions.

M. ASTM E119 - Test Methods for Fire Tests of Building Construction and Materials.

N. GA-214 (Gypsum Association) - Recommended Specification: Levels of Gypsum Board Finish.

O. GA-216 (Gypsum Association) - Recommended Specifications for Application and Finishing of Gypsum Board.

P. GA-600 (Gypsum Association) - Fire Resistance Design Manual.

Q. UL (Underwriters Laboratories, Inc.) - Fire Resistance Directory.

R. WH (Warnock Hersey) - Certification Listings.

1.3 Performance Requirements

A. Conform to applicable code for fire rated assemblies as follows:

1. Fire Rated Partitions: Listed assembly by UL No. U-465.
2. Fire Rated Ceiling: Listed assembly by UL No. P-201.
3. Fire Rated Structural Column Framing: Listed assembly by UL No. X-528.
4. Fire Rated Structural Beam Framing: Listed assembly by UL No.

B. Acoustic Attenuation for Identified Interior Partitions: 35 STC in accordance with ASTM E90.

1.4 Quality Assurance

A. Perform Work in accordance with ASTM C840.

1.5 Qualifications

A. Manufacturer: Company specializing in manufacturing products specified in this

section with minimum three years experience.

B. Installer: Company specializing in performing Work of this section with minimum three years experience.

PART 2 PRODUCTS

2.1 Gypsum Board Assemblies

A. Manufacturers:

1. Celotex Building Products.
2. G-P Gypsum Corp.
3. National Gypsum Co.
4. United States Gypsum Co.
5. Gordon.
6. Fry Reglet.
7. Substitutions: Section 01600 - Product Requirements.

2.2 Components

A. Framing Materials

1. Studs and Tracks: ASTM C645; galvanized sheet steel, C shape.
2. All exterior metal stud walls shall be 20 gauge with 16 gauge for all tracks.
3. All interior metal stud partitions shall be 20 gauge with 16 gauge for all tracks.
4. Provide slip track at top of all walls that abutt structural member 18ga. X 2" flange x wall stud depth, Reference Drawings.
5. Furring, Framing, and Accessories: ASTM C645.
6. Fasteners: ASTM C514.
7. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

B. Gypsum Board Materials:

1. Standard Gypsum Board: ASTM C36; 5/8inch thick, maximum available length in place; ends square cut, tapered edges.
2. Fire Rated Gypsum Board: ASTM C36; fire resistive type, UL or WH rated; 5/8 inch thick, and ½ inch thick maximum available length in place; ends square cut, tapered edges.
3. Moisture Resistant Gypsum Board: ASTM C630; 5/8inch thick, maximum available length in place; ends square cut, tapered edges.
4. Gypsum Backing Board: ASTM C442; fire rated type; 5/8inch thick; V-grooved edges, ends square cut, maximum available size in place.
5. Gypsum Sheathing Board: ASTM C79; moisture resistant type; 1/2inch thick, maximum available size in place; ends square cut, tongue and grooved edges; water repellent paper faces, sealed edges.

2.3 Accessories

A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced, 3inch thick.

B. Acoustic Sealant: Non-hardening, non-skinning, for use in conjunction with gypsum board.

C. Corner Beads: Metal.

D. Control Joints: USG #093

E. Edge Trim: GA-216; Type LC bead.

F. Reveal Trim: 904 Series, by Gordon or "w" Reveal by Fry Reglet.

F. Joint Materials: ASTM C475; reinforcing tape, joint compound, adhesive, and water.
G. Textured Finish Materials: Latex based texturing material.
H. Fasteners: ASTM C1002, Type S12.

PART 3 EXECUTION

3.1 Examination

A. Section 01300 - Administrative Requirements: Coordination and project conditions. Verify site conditions are ready to receive work and opening dimensions are as instructed by manufacturer.

3.2 Existing Work

A. Extend existing gypsum board installations using materials and methods as specified. Repair and remodel existing gypsum board assemblies which remain or are to be altered.

B. Repair and remodel existing gypsum board assemblies which remain or are to be altered.

3.3 Installation

A. Metal Stud Installation:
   1. Install studs in accordance with ASTM C754.
   2. Metal Stud Spacing: 16 inches on center.
   3. Refer to Drawings for indication of partitions extending stud framing through ceiling to structure above. Maintain clearance under structural building members to avoid deflection transfer to studs. Provide extended leg ceiling runners.
   4. Door Opening Framing: Install double studs at door frame jambs. Install stud tracks on each side of opening, at frame head height, and between studs and adjacent studs.
   5. Blocking: Nail wood blocking to studs. Install blocking for support of plumbing fixtures, toilet partitions, wall cabinets, toilet accessories and hardware.

B. Wall Furring Installation:
   1. Erect wall furring for direct attachment to concrete masonry walls.
   2. Erect furring channels vertically; space maximum 16 inches on center, not more than 4 inches from floor and ceiling lines. Secure in place on alternate channel flanges at maximum 24 inches on center.

C. Furring For Fire Ratings: Install furring as required for fire resistance ratings indicated.

D. Ceiling Framing Installation:
   1. Install in accordance with ASTM C754.
   2. Coordinate location of hangers with other work.
   3. Install ceiling framing independent of walls, columns, and above ceiling work.
   4. Reinforce openings in ceiling suspension system which interrupt main carrying channels or furring channels, with lateral channel bracing. Extend bracing minimum 24 inches past each end of openings.
   5. Laterally brace entire suspension system.

E. Acoustic Accessories Installation:
   1. Install resilient channels at maximum 24 inches on center. Locate joints over framing members.
   2. Place acoustic insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind

partitions, and tight to items passing through partitions.

3. Install acoustic sealant within partitions.

F. Gypsum Board Installation:

1. Install gypsum board in accordance with GA-216.
2. Erect single layer standard gypsum board, vertical with ends and edges occurring over firm bearing.
3. Erect single layer fire rated gypsum board vertically, with edges and ends occurring over firm bearing.
4. Erect exterior gypsum sheathing in accordance with ASTM C1280, horizontally, with edges butted and ends occurring over firm bearing. Apply sealant at all exposed edges and penetrations.
5. Use screws when fastening gypsum board to metal furring or framing.
6. Treat cut edges and holes in moisture resistant gypsum board with sealant.
7. Place control joints consistent with lines of building spaces as directed.
8. Place corner beads at external corners. Use longest practical length. Place edge trim where gypsum board abuts dissimilar materials as indicated on Drawings.

G. Joint Treatment:

1. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
2. Feather coats on to adjoining surfaces so that camber is maximum 1/32 inch.
3. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile.

H. Texture Finish: Spray apply finish texture coating.

3.4 Erection Tolerances

A. Section 01400 - Quality Requirements: Tolerances.

B. Maximum Variation of Finished Gypsum Board Surface from Flat Surface: 1/8 inch in 10 feet.

END OF SECTION

SECTION 09510
SUSPENDED ACOUSTICAL CEILINGS
(ALTERNATE PLAN)

PART 1 GENERAL

1.1 Summary

A. Section includes suspended metal grid ceiling system and perimeter trim; acoustic tile panels

B. Related Sections:

1. Section 07210 – Building Insulation.
2. Section 07900 - Joint Sealants.

1.2 References

A. ASTM C635 - Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.

B. ASTM C636 - Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.

C. ASTM C665 - Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

D. ASTM E1264 - Classification of Acoustical Ceiling Products.

E. CISCA (Ceilings and Interior Systems Contractors Association) - Acoustical Ceilings: Use and Practice.

F. UL (Underwriters Laboratories, Inc.) - Fire Resistance Directory.

G. WH (Warnock Hersey) - Certification Listings.

1.3 Performance Requirements

A. Installed System: Conform to UL WH Design # for ceiling and floor ceiling and roof assembly.

B. Suspension System: Rigidly secure acoustic ceiling system including integral mechanical and electrical components with maximum deflection of 1:360 1:240.

1.4 Submittals

A. Section 01330 - Submittal Procedures: Submittal procedures.

B. Shop Drawings: Indicate grid layout and related dimensioning, junctions with other work or ceiling finishes, interrelation of mechanical and electrical items related to system and. Indicate method of suspension where interference exists.

C. Product Data: Submit data on metal grid system components, acoustic units and.

D. Samples: Submit two samples 12 x 12 inch in size illustrating material and finish of acoustic units.

E. Samples: Submit two samples each, 6 inches long, of suspension system main runner, cross runner, perimeter molding.

F. Manufacturer's Installation Instructions: Submit special procedures, perimeter conditions requiring special attention.

1.5 Quality Assurance

A. Conform to CIRCA requirements.

B. Maintain one copy of each document on site.

1.6 Qualifications

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

B. Installer: Company specializing in performing Work of this section with minimum three years documented experience.

1.7 Pre-Installation Meeting

A. Section 01300 - Administrative Requirements: Preinstallation meeting.
B. Convene minimum one week prior to commencing Work of this section.

1.8 Environmental Requirements
A. Section 01600 - Product Requirements.
B. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustic unit installation.

1.9 Sequencing
A. Section 01100 - Summary: Work sequence.
B. Sequence Work to ensure acoustic ceilings are not installed until building is enclosed, sufficient heat is provided, dust-generating activities have terminated, and overhead work is completed, tested, and approved.
C. Install acoustic units after interior wet work is dry.

1.10 Extra Materials
A. Section 01700 - Execution Requirements: Spare parts and maintenance products.
B. Furnish two boxes of full size acoustic unit area of each type installed to Owner. Package each type of material separately, distinctly marked and adequately protected against deterioration. Deliver extra materials to the project site.

PART 2 PRODUCTS

2.1 Suspended Acoustical Ceilings
A. Manufacturers:
1. Armstrong
2. Approved equal – Refer to Section 01601 for substitution

2.2 Components
A. Acceptable Products
1. Acoustic Panels: ASTM E1264, conforming to the following:
a. Size: 24" x 24" inches
b. Thickness: 1 inches.
c. Composition: Mineral.
d. Board Finish: White
e. NRC Range: .90-1.00
f. Fire Resistive panels shall carry UL label.
g. Pattern: Fine Texture
h. Light Reflectance: .90
i. Low VOC Formaldehyde
j. Style: OPTIMA OPEN PLAN

B. Grid:
1. Non-Fire Rated Grid: ASTM C635, light; exposed 1 ½" T; components die cut and interlocking.
2. Fire Rated Grid: ASTM C635, light, listed by UL for use in one-hour assembly, exposed T; components die cut and interlocking.
3. Grid Materials: Commercial quality cold rolled steel with galvanized coating.
4. Exposed Grid Surface Width: 15/16 inch with reveal.
5. Grid Finish: White.
6. Accessories: Stabilizer bars, clips, splices, perimeter moldings, hold down clips, required for suspended grid system.
7. Support Channels and Hangers: Galvanized steel; size and type to suit application, and ceiling system flatness requirement specified.

2.3 Accessories

A. Acoustic Batt Insulation: Specified in Section 07210, unfaced; 3 ½ inch thick.
B. Gypsum Board: Fire rated type; specified in Section 09250.
C. Acoustic Sealant for Perimeter Moldings: Specified in Section 07900.
D. Gasket for Perimeter Moldings: Closed cell rubber sponge tape.
E. Touch-up Paint: Type and color to match acoustic and grid units.

PART 3 EXECUTION

3.1 Examination

A. Section 01300 - Administrative Requirements: Coordination and project conditions.
B. Verify layout of hangers will not interfere with other work.

3.2 Installation

A. Lay-In Grid Suspension System:
1. Install suspension system in accordance with ASTM C636 and as supplemented in this section.
2. Install system capable of supporting imposed loads to deflection of 1/360.
3. Locate system on room axis according to reflected plan. Coordinate the patterns with ceiling lights and grilles in conformance with the reflected ceiling plans and as directed.
4. Install after major above ceiling work is complete. Coordinate location of hangers with other work.
5. Install hanger clips during steel deck erection. Install additional hangers and inserts as required.
6. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
7. Where ducts or other equipment prevent regular spacing of hangers, reinforce nearest affected hangers and related carrying channels to span extra distance.
8. Do not support components on main runners or cross runners when weight causes total dead load to exceed deflection capability. Support fixture loads by supplementary hangers located within 6 inches of each corner; or support components independently.
9. Do not eccentrically load system, or produce rotation of runners.
10. Perimeter Molding:
a. Install edge molding at intersection of ceiling and vertical surfaces into bed of acoustic sealant with continuous gasket.
b. Use longest practical lengths.
c. Miter Overlap and rivet corners.
d. Install at junctions with other interruptions.
e. Use prefabricated corner pieces where possible to eliminate filed metering.
11. Install light fixture boxes constructed of gypsum board, or acoustic panel above light fixtures in accordance with UL WH assembly requirements and light fixture ventilation requirements.

B. Acoustic Units:
1. Fit acoustic units in place, free from damaged edges or other defects detrimental to appearance and function.
2. Lay directional patterned units one way with pattern parallel to longest shortest room axis in basket weave pattern. Fit border trim neatly against

abutting surfaces.

3. Install units after above ceiling work is complete.
4. Install acoustic units level, in uniform plane, and free from twist, warp, and dents.
5. Cutting Acoustic Units:
   a. Cut to fit irregular grid and perimeter edge trim.
   b. Cut square reveal bevel edges to field cut units.
   c. Double cut and field paint exposed edges of regular units.
6. Where bullnose concrete block corners round obstructions occur; install preformed closures to match perimeter molding.
7. Lay acoustic insulation for distance of 48 inches on both sides of acoustic partitions as indicated on Drawings.
8. Install hold-down clips to retain panels tight to grid system within 20 ft. of exterior door.

3.3 Erection Tolerances

A. Section 01400 - Quality Requirements: Tolerances.

B. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

C. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

3.4 Schedules

A. Refer to reflected ceiling plans and finish schedule for location of ceiling finishes.

END OF SECTION

SECTION 09900
PAINTING

PART 1 GENERAL

1.1 Description

A. Work Included:

1. Painting and finishing of all interior and exterior exposed surfaces except where the natural finish of the material is obviously intended as a surface not to be painted.
2. Types of materials, number of coats and dry mil thickness shall be as listed in the Paint Schedule in Part 3 of this specification.

B. Related Work Described Elsewhere:

1. Pre-finishing: Shop priming and factory pre-finishing are required on some items described in other Sections of the specifications.
2. Joint Sealants: Section 07900

C. Definitions: The term "paint" as used herein, includes enamels, paints, sealers, fillers, emulsions, and other coatings whether used as prime, intermediate, or finish coats.

1.2 Quality Assurance

A. Qualifications of Painters: Use only qualified journeymen painters for mixing and application of paint; in acceptance or rejection of work, no allowance will be made for lack of skill on the part of painters.

B. Codes and Standards:

1. Comply with pertinent codes and regulations.
2. Comply with "Standard (type 1)" as defined in the latest edition of the Painting and Decorating Contractors of America in their "Modern Guide to Paint Specifications".

1.3 Submittals

A. Materials List:

1. Submit in accordance with the provisions of Section 01330 a complete list of materials proposed to be furnished and installed under this portion of the work.
2. This shall in no way be construed as permitting substitution of materials for those specified.

B. Samples:

1. If directed by the Architect, prepare two sets of samples of scheduled colors painted onto 6" x 11" x 1/4" material.
2. If possible, sample shall be same material on which coating will be applied in the work.

C. Manufacturer's Recommendations: Submit for Architect's review the current recommended method of application published by the manufacturer of each specified material.

1.4 Product Handling

A. Delivery: Deliver materials to job site in original unopened containers with legible labels intact.

B. Protection:

1. Store approved materials in a suitable and designated area at the job site.
2. The designated area shall be restricted to storage of paint materials and related equipment.
3. Use necessary means to ensure safe storage and use of materials and prompt and safe disposal of waste.
4. Protect materials before, during and after application.
5. Protect installed work and materials of other trades.

C. Replacements: In event of damage, make repairs and replacements as necessary.

1.5 Extra Stock

A. Deliver to Owner an extra stock of paint equaling 10 gallons of each color used in each material.

B. Extra stock shall be in tightly sealed and clearly labeled containers.

PART 2 PRODUCTS

2.1 Paint Materials

A. Manufacturer:

1. Materials selected for coating system for each surface shall be the product of a single manufacturer.
2. Paint materials listed herein, unless otherwise designated in the "Painting Schedule", are the products of Pratt & Lambert and require no further approval as to manufacturer or catalog number.
3. Products of Sherwin-Williams, Tnemec and Kelly-Moore may be used subject to approval by the Architect. (Verify acceptable Paint Manufacturer with Owner's Building Standard.)

B. Compatibility:

1. Paint materials and equipment shall be compatible in use.
   a) Finish coats shall be compatible with prime coats.
   b) Prime coats shall be compatible with surface to be coated.
   c) Tools and equipment shall be compatible with coating to be applied.
2. Thinners shall be only those recommended by the manufacturer of the material being thinned.

PART 3 EXECUTION

3.1 Surface Conditions

A. Inspection:

1. Inspect installed work of other trades and verify that such work is complete to point where this installation may commence.
2. Verify that finished may be applied in accordance with pertinent codes, regulations, and requirements of these specifications.

B. Discrepancies:

1. In event of discrepancy, notify Architect.
2. Do not proceed until discrepancies have been resolved.

3.2 Preparation of Surfaces, General

A. Protection: Mask, remove, or otherwise protect all hardware, accessories, machined surfaces, plates, lighting fixtures, and similar items in contact with painted surfaces but not scheduled to receive paint.

B. Priming: Spot prime exposed nails and other metals, which are to be painted, using primer recommended by manufacturer of the coating system.

C. Cleaning:

1. Clean all surfaces before applying paint or other surface treatment.
2. Schedule cleaning and painting so that dust or other contaminants from cleaning process will not fall on wet, newly painted surfaces.

3.3 Preparation of Wood Doors

A. Cleaning: Clean wood doors until free from dirt, oil and all foreign substance.

B. Smoothing:

1. Just prior to sealing and finishing, doors must be completely block sanded, with not less than 150 grit sandpaper to remove all handling marks and raised grain.
2. Do not use steel wool on oak veneered or fire rated doors.

C. Priming for Opaque Finish: Top, bottom, opening, and hardware recess edges must be primed immediately after fitting.

3.4 Preparation of Metal Surfaces

A. Galvanized Metal:

1. Clean with solvent until completely free from dirt, oil and grease.
2. Treat cleaned surface with phosphoric acid etch.

3. Remove excess etching solution and allow to dry completely before application of paint.

B. Other Metals:

1. Clean all surfaces until completely free from dirt, oil and grease.
2. Allow to dry thoroughly before application of paint.

3.5 Paint Application

A. General:

1. Paint all surfaces except glass, finished masonry, flat concrete, and similar items not pre-finished and not called out as unfinished.
2. Paint grilles and other pre-finished items where factory pre-finish is not in accordance with color schedule.

B. Drying:

3. Allow sufficient drying time between coats.
4. Modify drying period as recommended by material manufacturer to suit adverse weather conditions.
5. Oil-base and oleo-resinous solvent type paints shall be considered dry for re-coating when paint feels firm, does not deform or feel sticky under moderate pressure of the thumb and application of another coat does not cause lifting or loss of adhesion of undercoat.

B. Environmental Conditions:

1. Comply with manufacturer's recommendation as to environmental conditions under which coating systems may be applied.
2. Do not apply paint in areas where dust is being generated.

C. Moisture Content:

1. Use an approved moisture-meter to test surfaces.
2. Do not apply initial coating until meter reading is within limits recommended by paint manufacturer.

D. Defects: Sand and dust between coats to remove defects visible to the unaided eye from a distance of five feet.

E. Color of Undercoats: Slightly vary the color of succeeding coats.

3.2 Inspection:

A. General: Do not apply additional coats until completed coat has been inspected and approved.

B. Number of Coats: Only inspected and approved coats will be considered in determining number of coats applied.

3.3 Dry Mil Thickness:

A. General: Apply coatings to the dry mil thickness indicated in the "Painting Schedule".

B. Measurement: Provide and use a "Tooke Dry Mil Thickness Gauge", or other approved gauge, to prove dry mil thickness of paint applied.

3.4 Reinstallation of Removed Items

Following completion of painting in each space, reinstall items removed for painting, using only workmen skilled in the particular trade.

3.5 Cleaning Up

A. General:

1. Do not allow accumulation of empty containers or other excess items except in areas set aside for that purpose.
2. Prevent accidental spilling of paint materials; in event of spill:
   a) Remove spilled material and waste or other equipment used to clean up spill.
   b) Clean surfaces to their original undamaged conditions.

B. Prior to Final Inspection: Visually inspect all surfaces and remove all paint and traces of paint from surfaces not scheduled to be painted.

3.6 Painting Schedule

Apply the following finishes to the designated areas: Where applicable.

Finish	Dry Mil Thickness
A. Interior	
Finish Type Drywall	**2.50**
1st. Coat: Sherwin-Williams ProMar High Holdout Latex Wall Primer, B28WY2000.	
2nd. Coat: Sherwin-Williams ProMar 200 Alkyd Eg-Shell Enamel, B33 Series.	
3rd. Coat: Same as 2nd. Coat.	
Finish Type Drywall (Epoxy Coating)	**4.0**
1st. Coat: Sherwin-Williams PrepRite 200 Latex Wall Primer, B28W200.	
2nd. Coat: Sherwin-Williams Water Based Catalyzed Epoxy, B70-200 Series.	
3rd. Coat: Same as 2nd. Coat.	
Finish Type Custom Built Cabinets (to receive stained finish)	**1.0**
1st. Coat: Sherwin-Williams Sherwood Natural Wood Stain	
2nd. Coat: Sherwin-Williams Wood Classics Interior Stain, A48 Series.	
3rd. Coat: Sherwin-Williams Wood Classics Polyurethane Varnish, A67 Series.	
4th. Coat: Same as 3rd. Coat.	

All products shall meet Federal Specification TTC-800 with minimum of 18 % solids.
Apply 1st. coat and 2nd. coat when all trades are completed and structural is ready for occupancy. Surface must be free of any dust, dirt, and other foreign matter.

END OF SECTION