

PROJECT MANUAL

Union County Health Department
Maynardville, Tennessee

Set Number

Architecture • Planning • Interior Designer
Knoxville, Tennessee

COMMUNITY



ELECTONICS

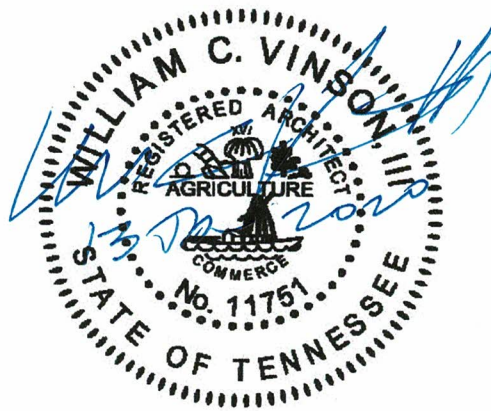
ARCHITECTS

PROJECT MANUAL
GENERAL CONSTRUCTION FOR

UNION COUNTY HEALTH DEPARTMENT

MAYNARDVILLE, TN

13 January 2020



PREPARED BY



COMMUNITY TECTONICS ARCHITECTS

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None Required

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None Required

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None Required

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None Required

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None Required

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None Required

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None Required

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None Required

Division 22 - Plumbing

None Required

Division 23 - HVAC

Refer to the Drawings

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Refer to the Drawings

END OF TABLE OF CONTENTS, SECTION 00 01 10

SECTION 00 01 11 BID SUMMARY INFORMATION

PRE BID DATE: 04 February 2020; 1:00 PM (Tuesday)

LOCATION: Conference Room
Union County Health Department
4335 Maynardville Hwy.
Maynardville, TN 37807

BID DATE: 13 February 2020; 1:00 PM (Thursday)

RECEIVED AT: Conference Room
Union County Finance Office
300 Main St.
Maynardville, TN 37807

BID DEPOSIT: \$250

BID BOND: 5%

MATERIAL/LABOR BOND: 100%

LIQUIDATED DAMAGES: \$100/CALENDAR DAY

COMPLETION DATE: 120 Days

SECTION 00 01 15 LIST OF DRAWING SHEETS

The following is a schedule of the drawing sheets which are bound as a companion volume to the project manual:

<u>DRAWING</u>	DATE	TITLE
	17 January 2020	Cover Sheet
G000	17 January 2020	Notes and Schedules
A001	17 January 2020	Existing & Demolition Floor Plan
A100	17 January 2020	Floor Plan
A101	17 January 2020	Existing, Demolition & Proposed RCP
A401		
E001	17 January 2020	Electrical Notes and Legends
E101	17 January 2020	Power and Communications Plan

ATTACHMENTS

Included at the end of this section are additional drawings, schedules, tables, and details (if any) which are also part of the contract documents.

N/A

END OF SECTION 00 01 15

SECTION 00 11 16 INVITATION TO BID

Sealed bids for the general construction of the Union County Health Department shall be received as follows:

OWNER: Union County
ATTENTION: Josh Gipson, State of TN Dept. of Health
LOCATION: Union County Finance Office

TIME: 13 February 2020, 1:00 PM (Thursday)

No bid shall be received or accepted after the above specified time for the opening of bids. Such bids shall not be opened nor returned.

Drawings, Specifications, and other Bidding Documents may be examined at the following locations:

Community Tectonics Architects, Inc. 7610 Gleason Drive, Suite 303, Knoxville, TN 37919
Phone: (865) 637-0890; info@communitytectonics.com

AGC of TN, Tri-Cities Branch - Online Plan Room
Phone: (423) 323-7121; planroom@tricitystnagc.org

Dodge Data & Analytics - Online Plan Room
Phone: (912) 351-4504; dodge.bidding@construction.com

Builders Exchange of Tennessee, 300 Clark Street, Knoxville, TN 37921
Phone: (865) 525-0443; reporter@bxtn.org

ConstructConnect - Online Plan Room
Phone: (770) 849-6430; Letty.London@ConstructConnect.com

Copies of the bidding documents for bidding purposes may be obtained by General Contractors and major subcontractors at the office of the Architect, Community Tectonics Architects, Inc., Knoxville, TN upon deposit of a check in the amount of two hundred and fifty dollars (\$250.00) made payable to Community Tectonics Architects, Inc., for each set of documents. Only two sets shall be provided each General Contractor, and one for subcontractors.

The full amount of the deposit, except as stated herein, will be refunded to all except the successful General Contractor, provided the following conditions have been met:

A bona fide bid has been submitted. (Subcontractors may be required to furnish evidence of submittal of a bid to at least one General Contractor.)

Drawings and specifications are returned to the office of the Architect in good condition within ten days of bid opening.

Documents, upon return, will be reviewed for damage and a charge of \$ 2.00 per sheet of drawings and \$.25 per project manual sheet will be deducted from the bidder's plan deposit should any sheets be found to be damaged, defaced, or missing.

The full amount of deposit for one set of documents (\$250) will be retained by the Architect from the Successful Bidder for the General Construction Contract.

Subcontractors, vendors and suppliers who desire individual drawings and/or specifications may obtain them from Knox Blueprint, 622 Leroy Avenue, Knoxville, TN 37927, (865) 525-0463, and shall pay their set rate for copies directly to the printer.

Each bid must be accompanied by a Certified Check or a Bidders Bond executed by the bidder and a surety company authorized to transact business in the state of the project's location in the amount of Five Percent (5%) of the Bid, including all additive alternates, as a guarantee that, if the bid is accepted, the required contract will be executed and the required performance and payment bonds furnished. Said bid security shall be returned to the unsuccessful bidders as soon as the contract has been awarded, and to the successful bidder as soon as the contract has been executed and the necessary bonds have been furnished.

The successful bidder will be required to execute a Performance Bond and a Payment Bond, each in an amount equal to 100% of the Contract Sum. Such bond shall be from a surety company authorized to transact business in the project's location and that company shall be registered in Federal Register, Part II, Department of Treasury, Fiscal Services, Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies; Notice. Attorney-in-Fact who sign any bonds must file with each instrument a certified and effective dated copy of their power of attorney.

All bidders must be licensed contractors as required by the Contractors Licensing Act of 1976, Tennessee Code Annotated 62-6 et. seq., enacted by the General Assembly of the State of Tennessee on March 21, 1976, as currently amended. Bidder's and their major Subcontractor's (Plumbing, Mechanical, Electrical) name, license number, date of expiration of license, license limitation, and that part of the license classification applying to the bid must be placed on the envelope containing the bid, otherwise the bid cannot be opened or considered.

The bid envelope shall also include Project name, and date and time of the bid opening.

No Bidder will be permitted to withdraw his bid for a period of sixty (60) days following the date of bid opening.

The Owner reserves the right to reject any or all bids and to waive any informalities in bidding.

Upon award of the construction contract to the Successful Bidder, construction shall commence on a date to be specified in a "Notice to Proceed" to the Contractor, and shall be completed on or before the completion date specified in the Contract Documents as time is of the essence in the performance of the contract for construction. The Contractor will be subject to liquidated damages for failure to complete the project within the contract time, as further stated in the Project Manual.

Upon receipt of the Notice to Proceed, the Contractor will be expected to proceed with the work regularly, diligently and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified.

It is this owner's intent to establish accounts and issue purchase orders as required to purchase all equipment direct. It shall be the responsibility of the bidder to assist the owner as required in establishing these accounts and reviewing and approving invoices for equipment purchased for use under this contract.

SECTION 00 21 13 INSTRUCTIONS TO BIDDERS

LOCATION

Bids for the General Construction Contract will be received at the location identified in the Invitation to Bid.

PLAN DEPOSIT

For procuring drawings and specifications, prime bidders shall deposit the amount indicated in the Invitation to Bid for each complete set, payable to Community Tectonics Architects. After opening of proposals, the deposits shall be refunded in full to unsuccessful prime bidders, under the following conditions:

Bidder submitted a bona fide proposal.

Documents are returned to Architect in good condition within ten (10) days of bid opening, properly bound, and with sheets in proper order.

Documents found not to be in order, or missing, damaged, or defaced, will be charged to the Bidder at rate of \$ 2.00 per drawing sheet, \$.25 per project manual sheet.

Postage, reproduction and other miscellaneous expenses have been paid.

The full amount of the deposit for one set of documents will be retained by the Architect from the successful bidder for the General Construction Contract.

Bidders who have not submitted a bona fide proposal will forfeit the plan deposit, unless documents were returned to the Architect seven (7) days or more prior to bid opening.

General Contractors shall be allowed to obtain two complete sets of drawings and specifications.

Major subcontractors will be allowed to obtain one full set of Drawings and Specifications. The deposit for the documents will be the same as for Prime Bidders and this deposit will be refundable provided the documents are returned in good order as above, and the subcontractor can furnish evidence that he submitted a bid to at least one General Contractor.

Major materials suppliers may obtain one set of Documents upon deposit of Two Hundred and Fifty Dollars (\$250.00), one-half of which will be refunded upon return of documents in good condition within the conditions stated above.

Contractors, subcontractors and manufacturers of specialties who desire less than a complete set of the Drawings and Specifications may obtain individual sheets of drawings and specifications (although this is not recommended by the Architect) on the following basis:

The contractor, subcontractor or manufacturer shall familiarize himself with a complete set of Drawings and Specifications, and his failure to do so shall in no way relieve him of responsibility, and no claims for extras shall be allowed in his behalf for failure to do so.

Individual documents shall be at the following rates:

Drawings: \$ 2.00 per sheet.

Specification and Project Manual Pages: \$.25 per page.

There will be no refund for these individual sheets.

The successful bidder will be furnished, free of additional charge other than his retained plan deposit, the number of sets of drawings and specifications identified in the Supplementary Conditions. Any additional drawings and/or specifications which he may desire will be furnished at the cost of reproduction.

INSURANCE

Insurance requirements are specified in the General and Supplementary Conditions.

EXAMINATION OF DOCUMENTS AND SITE

Each Contractor shall visit the site of the proposed work, shall examine and compare the drawings and specifications, and shall become fully acquainted with the existing conditions, difficulties, and conditions attending the execution of the work proposed to be performed.

LAWS AND REGULATIONS: The Bidder's attention is directed to the fact that all applicable State laws, Municipal ordinances and the rules and regulations of all authorities having jurisdiction over the construction of the project shall apply to the Contract throughout and they will be deemed to be included in the Contract the same as if written therein in full.

PRE-BID CONFERENCE

A Pre-Bid Conference will be held at the Union County Health Department, 4335 Maynardville, Hwy, Maynardville, TN, at 1:00 PM, February 04, 2020. The purpose of the meeting will be to review Bid Plans and Specifications and to review Proposed Phasing of the project. All contractors and sub-contractors are invited and encouraged to participate in this conference.

INTERPRETATIONS AND ADDENDA

If, during the bidding period, the Bidder finds discrepancies, ambiguities, omissions, or is in doubt as to meaning or intent of documents, he shall notify the Architect not later than seven (7) days prior to Bid Date. Such necessary clarifications, information, interpretations, or amendments shall be issued in the form of written addenda to the Drawings and Specifications, issued to all holders of complete sets of drawings, simultaneously.

No request for interpretation or clarification shall be received or answered later than five days prior to bid date. Architect will not be responsible for oral interpretations or instructions during the bidding period.

Addenda are incorporated, by reference, into the contract. Failure of any bidder or sub-bidder to receive any addenda shall not relieve the bidder of any obligation with respect to his proposal, and it shall be the sole responsibility of each Bidder to insure that he has received all addenda.

BID REQUIREMENTS - PROPOSALS

Contractors or subcontractors bidding work under the same contract which exceeds \$ 25,000.00 must be licensed in accordance with State of Tennessee requirements.

The bid must be submitted in a standard-sized envelope. Required information must be placed on the front of this envelope or the bid will not be opened. Information shall be as required in the Invitation to Bid and that shown on the "Bid Envelope Information" form included at the end of this section.

Do not remove Proposal Form included in Project Manual. The Contractor may obtain additional copies of the Proposal Form from the Architect at the cost of reproduction, or he may machine-copy the form, or he may type the form on his

own letterhead.

Complete the Proposal Form in duplicate, enclosed in sealed envelope along with Bid Security, properly complete required information requested on face of envelope and submit at the specified time and place.

Proposals received prior to bid opening shall be securely kept unopened. Proposal received after time for bid opening shall not be opened but shall be retained by the Owner.

Include information relative to bid within sealed envelope. Information appearing outside of envelope shall not be considered.

BID GUARANTEE REQUIREMENTS

Accompany proposal with bid guarantee in an amount not less than Five Percent (5%) of the proposal, including all additive alternates, in the form of a legal surety's bid bond, or a certified check, made payable to the Owner. The company writing the bond must be licensed to transact business in the State of Tennessee.

Submit Bid Security as guarantee that:

Bidder shall not withdraw bid for sixty days following bid opening without Owner's written consent.

If Proposal is accepted, Bidder will enter into formal contract with Owner within the specified time limit.

If Proposal is accepted, Bidder shall execute required Contract Bonds within the time limits specified.

Bidder shall be liable to Owner for the full amount of the Bid Security as representing damage to Owner on account of the default of Bidder in any way particular thereof if:

Proposal is withdrawn within sixty (60) days after receipt of bids without approval of Owner.

Bidder fails to enter into Contract with Owner and execute required Contract Bonds within ten (10) days subsequent to receipt of Notice of Award of Contract.

Contractor shall submit to Architect for approval a complete list of subcontractors and major materials suppliers within five (5) days of receipt of Notice of Acceptance of Proposal.

AWARD OF CONTRACT

Contract shall be awarded to Lowest Responsible Bidder complying with conditions of the Bidding Requirements, provided Proposal is reasonable and to the interest of the Owner to accept Proposal. Owner reserves the right to accept or to reject any or all bids, or parts thereof submitted, including alternates as specified in Section 01 21 13, if any, and to waive any informalities in bidding and to award the Contract in the Owner's best interests.

QUALIFICATIONS

Upon request by the Architect and/or Owner, any bidder may be required to submit the following information to the Architect within five days of receipt of request:

Number of years in construction business.

Key organizational personnel.

Credit rating for this contract.

Total amount of work under other contracts this date.

Certificate of Licensing from Tennessee Licensing Board for General Contractors.

Serious injury and lost work day frequency rates for each of the last three years.

Serious injury and lost work day frequency rates for each of the last three years, for each significant subcontractor to be utilized on this project.

Experience Modifier Ratio (EMR) for each of the last three years.

A copy of the contractor's written safety program

The contractor's proposed safety plan for this project.

TIME OF COMPLETION

As time is of the essence to this contract, the work to be performed may commence upon Notice to Proceed and be completed within the specified date provided by the Bidder on his Bid Proposal Form, or as modified by Contract.

By submitting a bid, the Contractor agrees to the assessment of liquidated damages in the amount of One Hundred Dollars (\$100.00) per calendar day for each day past the Contract completion date for each portion of the work that he has not substantially completed of the project, unless he has requested and been granted an extension of time in accordance with Article 8.3 of the AIA General Conditions. Substantial completion shall be as determined solely by the Architect, and shall also be evidenced by the issuance of a Certificate of Occupancy by the Local Authority for the new portion of the work. The following dates shall be used for the purpose of establishing liquidated damages:

Notice to Proceed: On or Before 20 March, 2020
Substantial Completion: One Hundred and Twenty Calendar Days

PERMITS

The Contractor will be required to obtain and pay for all permits, including the building permit, any required temporary sign permits, and all other permits as specified in the Project Manual, and/or required by the authorities having jurisdiction.

TAXES

The Contractor shall pay all local and state sales, consumer, use and other similar taxes required by law.

BUSINESS LICENSE

By submitting a bid, this contractor certifies that he holds a business license to permit him to perform construction work in the city, county, and state of the project location, or that he will pay for and obtain such license prior to commencing work, if he is awarded the contract.

PRODUCT QUALITY

Whenever in the drawings or specifications an item is specified or shown by use of the name of a proprietary product or of a manufacturer or vendor, or whenever the terms "equal" or "approved equal" are used, the product named is intended to set the standard of design or quality for such item. Except where it is specifically stated that "no substitution will be permitted", the Contractor may, subject to the following provisions, offer a substitute.

Should the Contractor wish to propose a substitute, written permission shall be requested on the "Substitute Request Form" from the Architect. The following information shall be included with the written request (Substitute Request Form is included at the end of this section):

The name and manufacturer of the product specified and the name and manufacturer of the proposed substitution.

Complete specification data, including illustrations, describing the product specified and the proposed substitution (copy of manufacturer's product literature shall be included).

Any further information which the Architect may request to enable him to evaluate the proposed substitution.

The Architect shall approve or disapprove the proposed substitution in writing prior to bidding. The Architect's decision shall be final. All substitutions must be approved prior to bid opening. Requests for substitutes shall be considered no later than seven (7) days prior to bid opening.

The burden of proof shall rest with the Contractor and/or manufacturer to prove that the proposed substitution is equal to the item specified.

Items exposed to view will have aesthetics as a consideration for determining its status as an "equal".

BID ENVELOPE INFORMATION

The following required information must be placed on the front of the envelope or the Bid will not be opened.

NAME OF PROJECT:

ARCHITECT: COMMUNITY TECTONICS ARCHITECTS, INC.
7610 GLEASON DRIVE, SUITE 303
KNOXVILLE, TN 37919

BIDDER'S NAME: _____

ADDRESS: _____

LICENSE NUMBER: _____ EXPIRATION DATE: _____

CLASSIFICATION OF LICENSE NUMBER: _____

LICENSE LIMIT: _____

PLUMBING LICENSE EXPIRATION
SUBCONTRACTOR: _____ NO. _____ DATE: _____
LICENSE LIMITATION: _____ CLASSIFICATION: _____

HVAC LICENSE EXPIRATION
SUBCONTRACTOR: _____ NO. _____ DATE: _____
LICENSE LIMITATION: _____ CLASSIFICATION: _____

ELECTRICAL LICENSE EXPIRATION
SUBCONTRACTOR: _____ NO. _____ DATE: _____
LICENSE LIMITATION: _____ CLASSIFICATION: _____

ROOFING LICENSE EXPIRATION
SUBCONTRACTOR: _____ NO. _____ DATE: _____
LICENSE LIMITATION: _____ CLASSIFICATION: _____

THESE DOCUMENTS ARE ACCEPTED AND APPROVED FOR OPENING AND PUBLIC READING:

BY: _____

TITLE: _____

SUBSTITUTION REQUEST FORM

PROJECT TITLE & NO: _____

TO: COMMUNITY TECTONICS ARCHITECTS, INC.
7610 GLEASON ROAD, SUITE 301, KNOXVILLE, TN 37919

ATTN: _____

SPECIFIED ITEM: _____

SECTION _____ PARAGRAPH _____

PROPOSED SUBSTITUTE _____

Attach complete description, catalog, spec data, and laboratory tests if applicable, on both the specified and proposed substitution.

1. What effect will substitution have on dimensions, gauges, weights, etc. indicated in Contract Documents?

2. What effect will substitution have on wiring, piping, ductwork, etc. indicated in Contract Documents?

3. What effect will substitution have on other trades: _____

4. What effect will substitution have on construction schedule?

5. What are the differences in quality and performance between proposed substitute and specified product?_____

6. Manufacturer's guarantees of the specified products and proposed products are:
Same:_____ Different _____

(Explain):_____

7. List (on separate sheet) the availability of maintenance services and replacement materials for proposed substitute.

8. List (on separate sheet) names, addresses and phone numbers of fabricators and suppliers for proposed substitutes.

9. If the substitution request is accepted, it will result in:

No cost impact _____ Credits (How much)_____

Added cost (How much)_____

10. There are _____are no_____license fees and royalties pending on the proposed substitute.
(Explain)_____

11. The undersigned shall pay for additional studies, investigations, submittals, redesign and/or analysis by the Architect/Engineer caused by the requested substitutions.

SUBMITTED BY: (Supplier or Subcontractor)

FIRM _____

ADDRESS: _____

SIGNATURE: _____

TELEPHONE NO. _____ DATE: _____

REVIEWED and APPROVED for Subcontractor by (General Contractor)

DATE: _____

ARCHITECT/ENGINEER'S REVIEW COMMENTS:

_____ Accepted _____ Accepted as Noted (see attached copy)

_____ Not Accepted _____ Received Too Late

_____ Rejected due to incomplete form. Resubmit.

SIGNATURE _____

DATE _____

REMARKS _____

SECTION 00 22 13 SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

GENERAL

In addition to the instructions provided in Section 00 21 13, Instructions to Bidders, the following shall apply to the work of this contract.

ACCESS TO SITE AND BUILDING FOR INVESTIGATION

Bidders shall be allowed partial access to the areas of the building and site associated with work of this contract. Bidders shall coordinate access to the site and building with the owner's representative for approval for days and times to access the site. To schedule times for access, contact:

Josh Gipson
710 James Robertson Parkway
Nashville, TN 37243
(615) 532-1957
josh.gipson@tn.gov

Garnet Southerland
185 Justice Center Drive
Rutledge, TN 37861
(865) 828-5247
garnet.southerland@tn.gov

Requests for access shall be coordinated by Ms. Southerland with the local administrator for acceptable access times provided to those requesting access.

The areas of the facility associated with work of this contract shall also be accessible for observation immediately after the Pre-Bid Meeting.

END OF SECTION 00 22 13

SECTION 00 41 13 - PROPOSAL FORM - STIPULATED SUM

PROJECT: UNION COUNTY HEALTH DEPARTMENT
MAYNARDVILLE, TN

OWNER: UNION COUNTY

ARCHITECT: COMMUNITY TECTONICS ARCHITECTS, INCORPORATED
7610 GLEASON DRIVE
KNOXVILLE, TENNESSEE 37919

FROM: _____
NAME OF BIDDER

ADDRESS OF BIDDER

CONTRACTOR'S PROPOSAL:

The undersigned Contractor has carefully examined and read the Contract Documents and Addenda as prepared by Community Tectonics Architects, Incorporated, Knoxville, TN 37919, and has examined the site of the work and the drawings and specifications, and has fully satisfied himself as to the conditions under which the work will be performed; and if this proposal is accepted, agrees to perform the work stipulated by a subsequent Contract for Construction, furnishing all necessary materials, labor, equipment, and incidentals required, in strict conformity with the plans and specifications for the amounts shown herein below.

BASE BID: For the sum of _____

(\$ _____), within a completion time of one hundred and twenty calendar days from and including the date of Notice to Proceed.

ALTERNATE NO. ONE: (Additional Painting) _____ (ADD)
_____ dollars (\$ _____).

ALTERNATE NO. TWO: (Additional Flooring and Base) _____ (ADD)
_____ dollars (\$ _____).

ALTERNATE NO. THREE: (Ceiling Tile) _____ (ADD)
_____ dollars (\$ _____).

ALTERNATE NO. FOUR: (LED Lighting Fixtures) (ADD)

_____ dollars (\$_____).

ALTERNATE NO. FIVE: (Complete Painting) (ADD)

- _____ dollars (\$_____).

ALTERNATE NO. SIX: (Complete Floor and Base) (ADD)

_____ dollars (\$_____).

The Undersigned agrees that this bid may not be withdrawn for a period of Sixty (60) days after bid opening.

Contractor agrees, if his proposal is accepted, to commence work within ten days of receipt of Notice to Proceed, and to complete the project within the time herein agreed to, unless otherwise modified by the Construction Contract by mutual agreement of Contractor and Owner. Contractor further agrees to the assessment of Liquidated Damages of One Hundred Dollars (\$100) per day for each calendar day past the set completion date that he has not substantially completed the contract, subject to approved time extensions in accordance with Article 8.3 of the AIA General Conditions, and as modified in the Supplementary Conditions.

Receipt of the following Addenda is hereby acknowledged:

No.	Date	No.	Date
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Undersigned acknowledges the right of the Owner to accept any proposal, to reject any or all proposals, and to waive any informalities in bidding.

Undersigned agrees that if notice of acceptance of bid is delivered to him within **Sixty (60) days** from the date of bid opening, he shall promptly execute and deliver a contract in accordance with his bid proposal, as accepted by the Owner, in the form included in the Contract Documents, and shall deliver required surety bonds and proof of insurance.

Bid Security in the amount of _____ Dollars

(\$_____) is submitted herewith.

SUBMITTED:

Contractor

By

Address

License Number

Telephone Number

Contract License Limit

Note: If a corporation, bid must be signed by person legally authorized by the corporation bylaws to bind the corporation to contract.

END OF SECTION 00 41 13

SUBCONTRACTOR LISTING AND PROJECT COST BREAKDOWN (cont.)

Portion of the work:

Subcontractor name and address:

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

by: _____
Duly Authorized Representative

Title

SECTION 00 60 00 - PROJECT FORMS

DESCRIPTION

Forms to be used on this Project (non-inclusive):

- AIA A101 Owner-Contractor Agreement Form, Stipulated Sum
- AIA A201 General Conditions of the Contract for Construction
- AIA A305 Contractor's Qualification Statement
- AIA A311 Performance Bond and Labor and Materials Payment Bond
- AIA G701 Change Order
- AIA G702 Application and Certificate for Payment
- AIA G703 Continuation Sheet for G702
- AIA G704 Certificate of Substantial Completion
- AIA G705 Certificate of Insurance
- AIA G706 Contractor's Affidavit of Payment of Debts and Claims
- AIA G706A Contractor's Affidavit of Release of Liens
- AIA G707 Consent of Surety to Final Payment
- AIA G707A Consent of Surety to Reduction in or Partial Release of Retainage
- AIA G711 Architect's Field Report
- AIA G714 Construction Change Directive

NOTE: All forms are to be those compatible with the edition of the General Conditions indicated in the contract documents. Provide standard AIA forms, or similar forms as specifically approved by the Architect.

END OF SECTION 00 60 00

SECTION 00 63 55 - PROPOSAL WORKSHEET DETAIL FORM

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to this section.

SUMMARY

Below find a sample of the itemization form for the above referenced project. This form shall be used in conjunction with the requirements of the General Conditions, article 7.1 CHANGES, as modified in the Supplementary Conditions.

ITEMIZATION FORM

ARCHITECT: _____ DATE: _____

CONTRACTOR: _____ QUOTATION NO: _____

JOB TITLE: _____

DESCRIPTION	MATERIAL				EQUIPMENT			LABOR		
	Unit	Cost	Quant	Total	Hrs	Rate	Total	Hrs	Rate	Total
SUBTOTALS										
PAGE TOTAL										

SECTION 00 72 00 - GENERAL CONDITIONS

PART 1 - GENERAL

Standard Form

The "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," Document A201, issued by the American Institute of Architects, 2007, sixteenth edition (and its Supplements if any) relates directly to the Work of the Project and is hereby made a part of the Contract as though fully contained in these Specifications.

No contractual adjustments shall be due or become exigent as a result of failure on the part of the Contractor to fully acquaint himself and all other parties to the Contract with the conditions of Document A201.

Where an article of the AIA General Conditions is amended herein, the provisions of such article shall remain in effect as amended. All the supplementary provisions of such article shall be considered as added thereto. Where any such article is amended, or voided, or superseded, the unchanged portions of the article, and all other articles, shall remain in effect.

The Supplementary Conditions are hereby made a part of these General Conditions.

The General Conditions govern all sections of the specifications and are as binding as if repeated herein.

END OF SECTION 00 72 00

SECTION 00 73 00 SUPPLEMENTARY CONDITIONS

MODIFICATIONS TO AIA A201, 2007 EDITION

The following supplements modify, change, delete from or add to the "General Conditions of the Contract for Construction", AIA Document A201, Sixteenth Edition, 2007, hereinafter referred to as the General Conditions. Where any article of the General Conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these supplementary provisions, the unaltered provisions of that Article, paragraph, subparagraph, or clause shall remain in effect.

1.0 ARTICLE 1 - GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

Add the following new paragraph 1.1.9:

1.1.9 DEFINITIONS

"Provide" or "Provided" as used in the Contract Documents require the furnishing and installing of a thing, product, system or the like.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add the following sentence to paragraph 1.2.2:

1.2.2 Description of the work paragraphs of the Sections, as an expansion of the Section title, set forth a brief indication of the principal work included in the Section but do not limit the work to subjects specifically mentioned nor do they suppose to list all work that may be included.

Add the following paragraph 1.2.4:

1.2.4 If there is any conflict within or between any of the Contract Documents involving the quality or quantity of work required, it is the intention of the Contract that the work of highest quality, greatest quantity, and greatest expense shown or specified be included by the Contractor in his estimates and the Architect shall rule as to the material or process furnished. Whether or not the word "all" is used in the specifications, coverage is intended to be complete, except where partial coverage is specifically and expressly noted. In all cases where an item is referred to in the singular number, it is intended that the reference shall apply to as many such items as are required to complete the work. Discrepancies and/or conflicts shall be submitted to the Architect in writing for clarification before the Contractor's Bid is submitted. This shall be done at least 7 days before bids are to be opened so that an addendum may be issued if necessary. Should discrepancies or conflicts be discovered, after the work has started, the Contractor shall report same to the Architect immediately, and no work connected with the discrepancies or conflicts shall be undertaken until the Contractor and the Architect agree on the clarification thereof.

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

Add the following paragraph 1.5.3:

1.5.3 The Contractor, Subcontractors, Sub-subcontractors, and material suppliers that are part of the contracted work may request electronic versions of documents for their use in preparing shop drawings or other project specific tasks. Requested documentation may or may not be available, or may be only partially available, at the sole discretion of the Architect or Engineer of origin for the documentation requested. Neither the Contractor, Subcontractor, Sub-subcontractor nor material supplier shall assume the availability of this documentation for the purpose of accomplishing their contractual duties for this project. When electronic documentation is provided, the requestor shall sign a release form(s) as required by the Architect and/or Engineer, and pay a fee to cover the administrative costs for locating, formatting, processing, and forwarding the requested information. Administrative fees shall apply as follows:

For editable files (AutoCAD): \$100 per drawing file. Title borders, electronic stamps and signatures and other impeded information in the file may be deleted prior to release.

For non-editable files (PDF): \$5 per drawing file, with a minimum of \$40 per request for information.

All requirements of paragraph 1.5.1, 1.5.2, and 1.6 shall apply to paragraph 1.5.3. Electronic information, if provided, is provided for general information purposes only and any use of it by the Contractor, Subcontractor, Sub-subcontractor, or material supplier shall place no responsibility for the accuracy or reliability of the information provided upon the provider. Additionally, information provided shall not relieve the user of his obligation to coordinate the work of his contract with the actual requirements of the project.

Electronic files shall be provided in the format of the current software version being used by the Architect or Engineer of origin. It shall be the responsibility of the requester to verify that the version to be provided is compatible with the software and/or versions available to the requester.

2.0 ARTICLE 2 - OWNER

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

Refer to paragraph 2.2.5: Delete this paragraph in its entirety and add the following in lieu thereof:

2.2.5 The General Contractor shall be furnished five (5) sets of drawings and project manuals by the Owner. Any additional drawings and/or other documents which may be desired may be obtained from the Architect at the cost of reproduction or reproduced by the user subject to the requirements of 1.5.2. All drawings and all other documents furnished to the Contractor shall be subject to the provisions of Article 1.5.1 and 1.5.2.

Add the following after 2.4

2.5 OWNER RESPONSIBILITY

The Owner shall have no responsibility for nor control of means, methods, techniques, procedures or coordination of any portion of the Work under this Contract. The Owner reserves the right to have input into certain aspects of the Project such as schedule, sequencing of the Work, and work times in existing buildings.

3.0 ARTICLE 3 - CONTRACTOR

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Add the following to paragraph 3.2.2 after the second sentence: No work affected thereby shall be started, or if started, shall be stopped immediately until the Contractor and the Architect agree upon clarification of the errors, inconsistencies, or omissions.

3.4 LABOR AND MATERIALS

Add the following to paragraph 3.4.3: All labor shall be performed in the best and most workmanlike manner by mechanics skilled in their respective trades. The standards of the work required throughout shall be of such grade as will bring first class results. Materials and/or workmanship not in compliance with the drawings and specifications and/or improperly installed shall be removed and replaced at no change in the Contract Price.

Add the following new paragraphs to 3.4:

3.4.4 Any material or other work specified by reference to the number, symbol, or title of a specific standard, such as American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), a Federal Specification, a trade association standard, or other similar standard, shall conform to the requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date of the drawings and specifications, except as limited to type, class or grade, or as modified in such reference.

3.4.5 The standards referred to, except as modified in the specifications, shall have full force and effect as though recited for the reason that the manufacturers and trades involved are assumed to be familiar with their requirements. The Architect will furnish, upon request, information as to how copies of the standards referred to can be obtained.

3.4.6 Where material or work is specified by reference to conform to standards such as those listed in 3.4.4 above, or to codes or other laws and regulations, but specific provisions of the contract drawings or contract specifications exceed the requirements of such references, the contract drawings and specifications shall govern.

3.4.7 Decisions heretofore made concerning the equivalence or equality of materials, supplies, and equipment furnished or incorporated in other projects, completed or under construction, for the Owner or the Architect, shall not be considered as precedents or criteria and shall have no bearing or influence on the question of equivalent, equal, or comparable materials, supplies, and equipment for this Project.

3.4.8 Products are generally specified by reference standard as identified in 3.4.3, and/or by manufacturer's name and model number or trade name. When specified only by reference standard, the Contractor may select any product meeting this standard, by any manufacturer. When several products or manufacturers are specified as being equally acceptable, the Contractor has the option of using any product and manufacturer combination listed but may not substitute other, after the bid, except as provided in Para 3.4.9 below, or where indicated within the specific specification. Manufacturers listed within specific specification sections may not produce standard products which comply fully with the requirements of the contract documents. In such cases, the manufacturer shall provide special/modified products which comply fully with the specified requirements, or be deleted from the list of approved manufacturers. When only one product and manufacturer is specified, this is the basis of the Contract, without substitution or exception. If any products specified in specific product specifications have been replaced with a newer product name or model number, provide the replacement product for that listed in that specification. If not a specific upgrade of the original product, provide similar product of equal or superior quality to that specified therein that most closely resembles the attribute of the original product.

3.4.9 After the Contract has been executed, the Owner and Architect will consider a formal request for the substitution of products in place of those specified, under the following conditions:

a. The request is accompanied by complete data on proposed substitution substantiating compliance with the Contract Documents including product identification and description, performance and test data, references and samples where applicable, and an itemized comparison of the proposed substitution with the products specified with data relating to Contract time schedule, design and artistic effect where applicable, and its relationship to any separate contracts. Provide information on "Substitution Information Form" included under Instruction to Bidders.

b. The request is accompanied by accurate cost data on the proposed substitution in comparison with the product specified, whether or not modification of the Contract sum is to be a consideration.

3.4.10 The Architect shall be the final judge for the acceptance of the substitution. No substitution shall be made without authorization in writing, and no substitution shall be considered after the award of the contract unless:

(a) It is considered to be in the best interest of the Owner, or

(b) because of materials and equipment specified or previously approved which have become unavailable because of circumstances beyond the control of the Contractor.

Provided further that, in the first case, request for substitution has been submitted by the Contractor within 30 calendar days after the award of the contract.

3.4.11 Substitutions will not be considered if:

(a) They are indicated or implied on Shop Drawings, Product Data, or Sample submissions without the formal request required in Para. 3.4.4 above; or

(b) for their implementation they require a substantial revision of the Contract Documents or work of the owner or separate Contractor in order to accommodate their use.

3.4.12 The burden of proof of the merit of any proposed substitute is upon the proposer. The decision of approval or disapproval of the Architect shall be final.

3.4.13 If approved substitutions require changes in other materials, equipment, or work, such required changes shall be made without additional cost to the Owner.

3.4.14 By making request for substitutions based on the provisions hereinbefore set forth in this section, the Contractor:

a. represents that he has personally investigated the proposed substitute and determined that it is equal or superior to the specified product in all respects;

b. represents that he will provide the same warranty for the substitute that he would for that specified.

c. waives all claims for additional costs related to the substitute which may subsequently become apparent; and

d. will coordinate the installation of the accepted substitute, making such changes as may be required for the work to be complete in all respects.

3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

Add the following new paragraphs to 3.7:

3.7.6 Pay all highway fees and for damages to any public property or public utilities.

3.7.7 Secure all certificates of inspection and of occupancy which may be required by authorities having jurisdiction over the work. Deliver all such to the Owner upon completion of the work.

3.9 SUPERINTENDENT

Add the following paragraphs to 3.9:

3.9.4 Contractor's superintendent shall devote his full time to this project and shall maintain his office on the job site. He shall direct, coordinate and supervise all work under this contract and shall inspect all materials delivered to the project. He shall ascertain whether or not they comply with the Contract Requirements and shall immediately reject all nonconforming materials and shall have them promptly removed from the site.

3.9.5 Superintendent shall be experienced in supervision of construction work of the magnitude and general character of this project prior to his employment on this project. His identity, experience, record, and other qualifying data shall be submitted to the Architect for approval.

3.9.6 Superintendent shall remain on the project until final acceptance of the work unless otherwise approved by the Architect. Alternate superintendent shall not be substituted at the job without approval of the Architect unless that superintendent is terminated from employment by the Contractor.

3.9.7 If the Superintendent's performance is unacceptable, as determined by the Architect, the Owner shall have the right to request the Superintendent be replaced with an alternate superintendent acceptable to the Architect.

3.9.8 The Contractor's project management personnel shall be subject to the qualifications and responsibilities and approvals as set forth in Paragraph 3.9 for the superintendent. In addition, the Contractor's project management personnel shall coordinate all submittals and insure their compliance with the contract documents, prior to submittal to the Architect.

3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

Add the following after the words "Architect's" in paragraph 3.10.2: "and Owner's".

Add the following new paragraph 3.10.4:

3.10.4 Completed Construction Schedule shall be submitted to the Architect no later than thirty (30) calendar days after the date of the Agreement and shall be updated during construction as required to keep it current. Nothing in this requirement shall be deemed to be a usurpation of the Contractor's authority and responsibility to plan and schedule the Work as he sees fit, subject to all other requirements of the Contract Documents.

3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

Add the following new paragraph to 3.12:

3.12.11 Additional provisions pertaining to shop drawings, product data and samples are included in Division 1, General Requirements.

3.18 INDEMNIFICATION

Add the following new paragraph to 3.18

3.18.3 The Contractor's indemnification shall specifically include, but not be limited to, all claims, damages, losses, and expenses including attorney's fees arising out of or relating to construction schedules, means, methods, techniques, sequences, procedures and for safety precautions and programs in connection with the Work and the Contractor's failure to carry out the Work in accordance with the Contract Documents, and authorities having jurisdiction, regardless of the Architect's on-site observations of such.

4.0 ARTICLE 4 - ARCHITECT

4.2 ADMINISTRATION OF THE CONTRACT

From paragraph 4.2.10, delete the second sentence in its entirety.

To paragraph 4.2.13, add the following:

The term "aesthetic effect" as used herein refers to color, texture, profile and juxtaposition of masses. The architect shall be the sole interpreter of the design intent with respect to such matters, but the Architect's authority with respect thereto shall not contravene any other rights of either the Owner or the Contractor ascribed to them by other provisions of the Contract.

5.0 ARTICLE 5 - SUBCONTRACTORS

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

Refer to paragraph 5.2.1, delete the last sentence and add the following:

No work shall be commenced until approval of such Subcontractors has been given in writing by the Architect. If required, the Contractor shall furnish evidence satisfactory to the Architect, showing the proposed Subcontractors are competent to execute the work covered by the Subcontract. Subcontractors listed on the Bid Envelope shall be used for the project identified and in the capacity listed.

5.3 SUB-CONTRACTUAL RELATIONS

Add the following paragraphs to 5.3:

5.3.1 The Contractor shall be directly responsible for all of the work included in the contract, whether performed by his own forces or by his subcontractors. Except in extreme emergencies, all instructions, clarifications, and approvals will be given to subcontractors only through the General Contractor and all shop drawings, samples and correspondence from the Subcontractors shall be submitted only through the General Contractor.

5.3.2 Insofar as it does not affect the quality of workmanship or materials, the General Contractor shall settle all questions of responsibility arising among his various subcontractors, and shall determine the extent of work and responsibility of each of the subcontractors.

7.0 ARTICLE 7 - CHANGES IN THE WORK

7.1 GENERAL

Add the following new paragraph to 7.1:

7.1.4 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall include, but not be limited to, a complete itemization of costs including labor, materials, and subcontracts on a form approved by the architect. Where major cost items involve Subcontracts, they shall also be itemized. In no case shall work over \$500.00 be approved without such itemization. Contractor or Subcontractor quoting extra work to be performed by their own forces shall be limited to 10% overhead and 5% profit. Contractor quoting extra work to be performed by their Subcontractors shall be limited to 5% profit on the amount due Subcontractor. If a change results in a credit to the Owner from the Contractor or the Subcontractor, the credit amount shall be net cost without crediting the overhead and profit.

7.3 CONSTRUCTION CHANGE DIRECTIVES

Make the following changes to Article 7.3:

In paragraph 7.3.3.3, delete the words "a mutually acceptable fixed or percentage fee" and insert in their place the words "overhead and profit as stipulated in paragraph 7.1.4".

In paragraph 7.3.7, delete the words "the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount," and insert in their place the words "overhead and profit as stipulated in paragraph 7.1.4".

8.0 ARTICLE 8 - TIME

8.3 DELAYS AND EXTENSION OF TIME

In paragraph 8.3.1, after the words "Contract Time", change "shall" to "may".

Delete Paragraph 8.3.2 and substitute the following:

8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Paragraph 15.1.5 CLAIMS FOR ADDITIONAL TIME.

Delete the period at the end of Paragraph 8.3.3 and add the following:

“, except that the Contractor’s sole remedy for delay, whether caused by an act or neglect of the Owner or Architect, or an employee of either, or of a separate contractor employed by the Owner, or any other reason as enumerated in Paragraph 8.3.1, shall be an extension of time.”

9.0 ARTICLE 9 - PAYMENTS AND COMPLETION

9.2 SCHEDULE OF VALUES

Amend paragraph 9.2 by the addition of the following:

The Schedule of Values and the Application for Payment shall be in the form of AIA G702 or such alternate form as the Owner may approve.

9.3 APPLICATIONS FOR PAYMENT

Refer to Article 9.3, and add the following paragraphs:

9.3.1.3 The Contractor shall submit his application for payment as directed in the Project Manual and/or as agreed upon in the Contract for Construction. The Owner shall make progress payments as set forth in the Contract, with 10% being retained to assure faithful performance of the contract. If the manner of completion of the work and its progress remain satisfactory to the Owner, and in the absence of other good and sufficient reasons, for each work category shown to be 50 percent or more complete in the Application for Payment, the Owner will, without reduction of previous retainage and with written consent of Contractor's surety, certify remaining progress payment for that category to be paid in full. In no case shall the retained amount be less than the 5% of the total contract price, however.

9.3.1.4 The full contract retainage may be re-instated if the manner of completion of the work and its progress do not remain satisfactory to the Architect and Owner, or if the Surety withholds or withdraws his consent, or for other good and sufficient reasons.

9.3.1.5 Upon the Architect's acceptance of substantial completion of the entire work, including all prerequisites to substantial completion listed in Section 01700 of the specifications, all retainage less a sum sufficient to cover all incomplete work and unsettled claims may be released to the Contractor.

9.3.1.6 Beginning with the second Application for Payment, the contractor shall verify that he has paid all subcontractors and major material suppliers that amount drawn on the previous payment for their respective areas of work.

9.3.1.7 The Contractor may apply for payment for materials covered with adequate insurance and suitably stored in approved off-site location on the date of request. Sufficient notice shall be given to the Architect to permit inspection of the material prior to approval of application.

Add the following at the end of paragraph 9.3.2:

The Owner and Architect reserve the right to request additional information including, but not limited to, invoices for stored materials. Furnish a separate Certificate of Insurance covering the full value of any materials stored off site and subsequent transportation to the job site. The Owner shall be named insured on the Certificate of Insurance.

9.6 PROGRESS PAYMENTS

Add the following to paragraph 9.6.1:

Unless otherwise provide in the Agreement, the Owner will make progress payments to the Contractor as soon as possible after the 15th day of each calendar month on the basis of a duly certified and approved estimate of the work performed during the preceding calendar month. In preparing estimates, materials delivered and properly stored on the site shall be given consideration.

9.10 FINAL COMPLETION AND FINAL PAYMENT

In paragraph 9.10.2, change "and (5)" to read "and (6)", and add a new clause (5) as follows:

“, (5) all Certificates of Insurance required by the Contract Documents and Authorities having jurisdiction,”

In paragraph 9.10.2, delete the words "if required by the Owner", and at the end of the sentence add the following: Contractor's affidavit of release of liens and a waiver and release of lien from each subcontractor and material supplier shall be submitted.

9.11 LIQUIDATED DAMAGES

Add paragraph 9.11 - LIQUIDATED DAMAGES and the following paragraphs following paragraph 9.10.5.

9.11.1 Time being of the essence, the contractor further agrees the conditions for liquidated damages in the amount set forth in the Contract Documents for each calendar day in excess of the allotted time for Substantial Completion, or any approved extension thereof, the parties agreeing that the amount of damages resulting from delay would be uncertain and difficult to prove, and further agreeing that such liquidating damages set forth in the Owner-Contractor Agreement are a reasonable estimate of those damages which could result from a delay.

9.11.2 If, at the end of 30 days following the date of Substantial Completion, unless otherwise stipulated in the Certificate of Substantial Completion, the project is not 100% complete, the Liquidated damages shall accrue until such time that 100% completion is achieved. The amount of Liquidated Damages per calendar day for this second period shall be **50%** of that originally set forth in the Contract Documents.

10.0 ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

10.2 SAFETY OF PERSONS AND PROPERTY

To subparagraph 10.2.4, add the following sub-subparagraph 10.2.4.1:

10.2.4.1 Whenever use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary to the performance of the Work, the Contractor shall give appropriately advance notice to the Owner and Architect.

11.0 ARTICLE 11 - INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

In paragraph 11.1., following the words "Project is located", insert the words: ", and to which the Owner has no reasonable objections,"

To paragraph 11.1.1, add the following new subparagraph, .9:

The liability insurance required by paragraph 11.1.1 shall be on a comprehensive basis, including:

1. Premises -- Operations
2. Independent Contractor's Protective

3. Products and completed operations
4. Owned, non-owned and hired motor vehicles
5. Broad form coverage for property damage

Add the following sentence after the second sentence in paragraph 11.1.3:

The words "endeavor to" and "but failure to" (to end of sentence) are to be eliminated from the Notice of Cancellation provisions of Standard Accord Certificates.

Add the following sub-paragraph 11.1.5.

11.1.4 The Contractor shall maintain throughout the life of this Contract liability insurance written in a comprehensive form, by an insurance carrier with an A-7 Best Rating, satisfactory to the Owner in the following minimum requirements:

1. Workmen's compensation and Employees' Liability:

a. Applicable Federal & State: statutory

b. Employer's Liability:

Each Accident:	\$500,000
Disease - Policy Limit:	\$500,000
Disease - Each Employee:	\$500,000

c. Water craft Liability \$1,000,000 if applicable

d. Aircraft Liability \$1,000,000 if applicable

2. Comprehensive General Liability (including premises-operations; independent contractor's protection; products and completed operations; broad form property damage, contractual liability):

a. Commercial General Liability, occurrence

1. General Aggregate: \$2,000,000
2. Products-Comp/OPS Aggregate: \$1,000,000
3. Personal and Advertising Injury: \$1,000,000
4. Each Occurrence \$1,000,000
5. Fire Damage (any one fire) \$50,000
6. Medical Expense (any one person) \$5,000
7. Products and completed operations to be maintained for one year after final payment.
8. Property damage liability insurance shall provide X, C, and U coverage and coverage for any special hazards such as blasting, underground hazards, including broad form property damage.
9. Provide asbestos removal liability insurance in the amount of \$2,000,000 per occurrence for all renovation and/or additions Projects for hazards of accidental uncovering of unknown asbestos
10. Aggregate shall be specifically applied to this project and shall be so noted on Certificate of Insurance.

3. Personal Injury with Employment Exclusion deleted:

Each Occurrence	\$1,000,000
Annual Aggregate	\$2,000,000

4. Comprehensive Automobile Liability; any auto, hired autos, non-owned autos:

Combined Single Limit:	\$1,000,000
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5. Excess Liability (umbrella), in excess of above coverages:

Each Occurrence:	\$ 1,000,000
Aggregate:	\$ 2,000,000

6. Coverage shall be provided on the property against the perils of flood and earthquake in addition to, and in accordance with, that required in paragraph 11.3.1 of the General Conditions.

Furnish one original and four copies of Certificates (4) of Insurance evidencing the coverages required by 11.1.2. The certificates must include the provisions that the Owner and Architect shall be notified of any changes, deletions, or cancellations of coverage within 30 days of such action. The form of the certificate shall be AIA Document G715, Certificate of Insurance, or a form equal to it in completeness. The Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits.

Add the following Subparagraph 11.1.5:

11.1.5 Insurance to be purchased and maintained by the Contractor shall be in a company or companies authorized or permitted to do business in the State in which the project is located. In addition, the insurance company must be acceptable to the Owner. The Certificate(s) of Insurance shall name the Owner and Architect as additional insured on the face of the certificate.

Add the following Subparagraph 11.1.6:

11.1.6 At the contractor's option, liability insurance limits as specified above for each occurrence and annual aggregate may be reduced and excess liabilities increased provided the same maximum units are maintained.

11.3 PROPERTY INSURANCE

11.3.1 Delete "unless otherwise provided" in the first sentence.

11.3.1 Delete "without optional deductibles".

11.3.1.3 Delete this paragraph in its entirety and add the following:

Property insurance carried by the Owner shall include a \$1,000 deductible clause for each peril. The \$1,000 deductible shall be the responsibility of the contractor.

11.4 PERFORMANCE BOND AND PAYMENT BOND

Add the following paragraphs to 11.4:

11.4.3 The Contractor shall furnish bonds, each in the full amount of the contract sum for construction, covering (a) the faithful performance of the contract and (b) the full payment of all labor and material costs, in the form of AIA A312 or in such other form as the Owner may prescribe or approve. The premium for all such bonds shall be paid for by the Contractor.

11.4.4 Bonds shall be written by a corporate surety acceptable to the Owner, licensed to transact business in the State in which the project is located, and such bonds shall contain dual obligee riders if required by the Owner.

11.4.5 The bonds shall be delivered to the Owner with the executed construction contract. Delivery of such bonds and approval of the same by the Owner shall be a condition precedent to the contract for construction and delivery by the owner of the "Notice to Proceed" order.

13.0 ARTICLE 13 - MISCELLANEOUS PROVISIONS

To the paragraph 13.7, change the number "10" to "7."

To the Article, add the following paragraph 13.8:

13.8 EQUAL OPPORTUNITY

13.8.1 The Contractor shall maintain policies of employment as follows:

The Contractor and all Subcontractors shall not discriminate against any employee or applicant for employment on account of race, religion, color, sex or national origin. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their race, religion, color, sex, or national origin. Such action shall include but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.

13.8.2 The Contractor and all Subcontractors shall, in all solicitations or advertisements for employees placed by them on their behalf, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex or national origin.

END OF SECTION 00 73 00

SECTION 00 91 13 - ADDENDA

1.0 ADDENDA

Addenda when issued, shall be listed in this section.

END OF SECTION 00 91 13

SECTION 01 10 00 - SUMMARY OF WORK

PART 1 - GENERAL

RELATED DOCUMENTS:

The General Provisions of the contract, including General and Supplementary Conditions and other General Requirement sections, apply to the work specified in this section.

DEFINITIONS:

"Work" and/or "Project": Refer to the General Conditions; the term "Work" and "Project" have substantially the same meaning in the Contract Documents; because, substantially, the work of the contract is recognized to be the complete project.

DESCRIPTIVE SUMMARY OF THE WORK

Identification: Refer to Contract (Owner-Contractor Agreement) for name, location, project number, and abbreviated identification of the work of the project. The work in this contract has been identified in the contract documents (by Community Tectonics Architects, Inc.) by the project number 19015.

Contract Documents: Requirements of the work are contained in the contract documents, and include cross-references therein to published information, which is not necessarily bound therewith.

Verbal Summary: Without force and effect on requirements of contract documents the (incomplete) description of the work of the Contract can be summarized as follows:

Project Name is "Union County Health Department" and is located in Maynardville, TN.

Furnish all labor, materials and equipment and perform all work necessary to construct the above referenced project as specified herein and shown on the accompanying drawings, The Work shall be constructed complete and ready for occupancy, except for the items specifically excluded in "Work Not Included".

The work shall include heating, ventilating, and air conditioning revisions; electrical work; and interior improvements as shown.

Perform all work required to accomplish demolition of indicated areas in the existing building, and to preserve and incorporate into the new work the existing components which is to be reused as shown and specified. Remove all existing utilities encountered in the work which are to be abandoned.

Perform all renovation work in existing building as shown on the drawings and as specified herein.

General Construction shall consist of renovation of the existing health department building.

The existing building consists of a single story structure with brick and CMU exterior bearing walls, interior non-bearing stud walls and wood trusses with plywood and fiberglass shingles..

The existing building is classified by the International Building Code as "Business".

Existing construction is to be classified as Type II, unprotected, unsprinklered. The existing building has a combined area of approximately 5,337 gross square feet.

This project consists of interior renovation of approximately 1,677 square feet of the existing building.

Contract Documents indicate the work of the Contract and related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the Contract Documents include, but are not necessarily limited to the following:

Existing site conditions and restrictions on use of the site and building.
Work to be performed concurrently by the Owner and/or under separate contract.
Alternates.
Allowances.

Summary by Reference: The work for the General Construction Contract can be summarized by reference to the requirements of the various contract documents, which in turn make reference to the requirements of other applicable provisions which control or influence the work; and these references can be summarized but are not necessarily limited to the following:

The Executed Owner-Contractor Agreement (not bound herewith).

The General and Supplementary Conditions, which are bound herewith (in this Project Manual).

The Drawings, which are listed in a "Schedule of Drawings" as of the date of these contract documents, and bound herewith (in this Project Manual).

The Specification Sections, which are bound herewith and are listed in the "Index of Specification Sections" bound herewith (in this Project Manual).

The Addenda and Modifications to the Contract Documents, which have been either bound herewith (in this Project Manual) or distributed by transmittal subsequent to the binding hereof.

Governing regulations, which have a bearing on the performance of the work; copies can be obtained from or reviewed at the local, State or Federal Agency responsible for the regulation in each case.

Submittals (of every kind), copies of which are retained by the Contractor at the site.

Miscellaneous elements of information having a bearing on performance of work, such as weather forecasts and reports of trade negotiations; copies must be obtained by the Contractor through normal channels of information.

WORK NOT INCLUDED IN CONTRACT

The following items shall be provided by the Owner or by others under separate contracts.

All movable furniture and furnishings and equipment, not specifically specified herein.
Office equipment.
Draperies and blinds.
Telephone equipment and wiring.
Technology wiring.
Any items noted N.I.C. (Not-in-Contract) on the drawings.

The following work in connection with item not included in the contract, as listed above, shall be part of the work of this contract:

Verification of correct location of electrical receptacles, telephone outlets, technology outlets, and similar outlets to suit furniture arrangement.

Installation of conduit, outlet boxes with fixed covers and terminal cabinets for telephone systems.

Installation of conduit, outlet boxes with fixed covers and terminal cabinets for technology systems.

PROGRESS SCHEDULE

In addition to the progress schedule required by paragraph 3.10 of the General Conditions, the Contractor shall also submit his proposed scheme of work for approval, describing proposed sequences of work from beginning to completion of the Work and their correlation with the Owner's specific requirements.

DIMENSIONS, CONTROL POINTS AND LAYOUT

The dimensions, elevations, locations of existing utilities shown on the drawings in reference to existing structures are the best obtainable, available data, but are not guaranteed by the Owner or the Architect and neither shall be responsible for their accuracy or completeness.

Prior to proceeding with any work which is dependent on the above data, the Contractor shall verify in the field all dimensions, grades, lines, levels or conditions necessary to avoid construction errors.

No additional compensation shall be borne by the Owner or Architect due to the failure of the Contractor or his subcontractors to properly coordinate the work with existing conditions.

The Contractor shall establish the necessary dimensions, lines and grades needed to locate and construct the work shown on the Contract Documents.

The Contractor shall provide all additional and supplementary lines and grades as may be necessary to layout the work and insure proper control of the work until completion. It shall be the Contractor's responsibility to satisfy himself as to the accuracy of all measurements during the construction process.

ALLOWANCES

Refer to Section 01 21 00 for Allowances which have been established for portions of the work as defined therein.

ALTERNATES

Refer to Section 01 23 00 for Alternates which have been established for portions of the work as defined therein.

ENVIRONMENTAL PROTECTION

It is the intent of these specifications to exclude all substances which are potentially hazardous. The Contractor is to be aware of this intent and verify through his subcontractors, suppliers, and manufacturer's that all materials and products provided for this facility shall be free of known environmental hazardous substances including formaldehyde, PCB's, and asbestos related materials. Furthermore it is intended that all material which are manufactured by processes which destroy the ozone or otherwise negatively impact the environment shall be avoided. No such materials shall be installed, even on a temporary basis, in any location of the project.

COORDINATION OF WORK OF SUBCONTRACTORS:

It is the responsibility of the Contractor to coordinate the work of his subcontractors. To this end, the Contractor shall require all subcontractors to examine and familiarize themselves with the complete set of Construction Documents, not just the documents relating to their trade. The Contractor shall also require all subcontractors to consult frequently with each other and all trades so that the work can be properly coordinated.

The Contractor shall carefully and frequently check the work of his subcontractors in order to deliver to the Owner the Contract Work complete and properly installed in conformance with the Contract Documents.

COORDINATION WITH OTHER CONTRACTORS:

The Owner may let separate contracts for work to be performed in the same areas as work under this contract. The Contractor shall cooperate fully with such separate contractors to prevent conflicts where their respective work interfaces.

USE OF EXISTING PREMISES AND COORDINATION OF CONSTRUCTION W/ OWNER'S OPERATIONS:

General: During the entire construction period the Contractor shall take every precaution to permit Owner's operations to continue uninterrupted. He shall maintain safety precautions and barriers to protect Owner's property and employees, students, visitors, and the public from his operations, and more particularly, as follows:

The contractor shall coordinate and review, at regular intervals with the Owner's Representative, the construction schedule; and shall implement no activity that will impact the Owner's operations without first reviewing the activity with the Owner's Representative and obtaining permission.

The Contractor shall modify his schedule as necessary to accommodate the Owner's operations. It is the intent of the Owner to be cooperative in accommodating the Contractor's work schedule; however, the Contractor shall recognize that certain aspects of the Owner's operation must take precedence. The Contractor shall anticipate any over-time and "after-hours" work that may be required in order to accommodate the Owner's requirements, and shall include any such anticipated time in his Bid. There shall be no request for extras for any overtime or after-hours work which may be required.

This Contractor shall not interrupt building utilities, power, or otherwise interfere with the operations of the Owner except when strictly necessary, and then only after notifying and receiving approval from the Owner and Architect, and providing alternate services as necessary to permit operations to continue.

It shall be recognized that the introduction of "outside" workers and activities associated with construction of the work may create unusual risks of fire. Special precautions shall be taken to guard against the potential exposure created by the introduction of flammable substances or by other hazardous practices which could pose a threat to occupants of the facility. Were appropriate or required by the local authority having jurisdiction, temporary barriers shall be erected to separate the new construction and associated activities from the functioning areas of the existing building. The purpose of such barriers is to maintain the required separation between the new construction and existing building during construction. Any openings into the existing building where the new construction connects shall be protected until construction is complete. Special care shall be taken to insure that all existing equipment for fire protection and all portions of existing means of egress are maintained in full working order. This is essential, in that construction may not proceed while the building is occupied unless all fire protection features and means of egress are in place and continuously maintained for the occupied portion of the building.

Use of tobacco products are strictly prohibited within the facility. Use of any tobacco products shall be limited to designated locations on the site.

The contractor shall be responsible for maintaining an appropriate dress code for all employees and sub-contractors performing work at the site. The use of suggestive or vulgar logos or applications on clothing shall be prohibited. Workers at the site shall maintain proper work clothing that is safe and free of tears, holes or missing components. The determination as to whether attire is appropriate shall rest sole with the owner. The contractor shall request workers with inappropriate attire to leave the site and not return until corrections have been made.

Use of inappropriate, excessively loud, or vulgar language., gestures, or actions shall be prohibited by the contractor and his employees. Where possible, provide visual barriers between the work being performed and the standard personnel, clients and visitors to the building. Where this is not possible, the contractor shall be responsible for limiting direct communications between the user and his workers to that necessary for the performance of the project. The contractor shall remove workers who do not conform to appropriate standards from the site for the duration of the project.

COORDINATION OF SITE

General: The Contractor shall limit his use of the premises to the work indicated, so as to allow for use of the site by separate contractors employed by the Owner.

Use of the Site: Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction.

Before the start of construction, the Contractor shall confer with the Owner and the Architect and arrange for available trucking and storage space for the delivery of materials, storage space for materials and equipment, and parking spaces for workmen.

Generally, the contractor shall confine all his activities, including workmen's parking, to the site. All existing site improvements, including lawn and landscaping developments shall be protected during the course of construction. Any existing improvements damaged by work of this contract shall be replaced to a condition equal to or better than the original condition.

Staging of materials shall be kept to a minimum on site. To the greatest extent possible, deliver products and materials on a "just in time" methodology and store materials in the areas being renovated where they will be used. Where this is not possible, work with the campus to determine locations on the perimeter of the campus where staging can occur. Material, time and labor for moving products from these staging areas shall be the responsibility of the contractor.

Provide notice to the campus when deliveries or work will require use of existing parking areas or drive adjacent to the areas being affected by work of this contract. The owner will work with the contractor to provide temporary access as necessary for delivery.

Workers on site may park in any area approved by the Owner.

Keep existing driveways and roadways and entrances serving the premises clear at all times. Do not use these areas for parking or storage of materials.

Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to the areas indicated, or if not indicated, as directed by the Architect.

Co-ordinate work at the site to minimize interference with work under separate contract.

Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.

SITE RESTRAINTS AT EXISTING FACILITIES

Co-ordinate and schedule work at the site to the greatest extent possible to maintain the owner's services to and use of existing facilities. When services or access must be encumbered by work under this contract, provide 72 hour written notice to owner detailing schedule, sequenced & duration of each event.

Construction operations and storage of materials and equipment shall be restricted to areas of the site mutually agreed upon and in such a manner as not to block access of fire fighting equipment to the building and not interfere with normal operation of the occupied areas of existing facilities.

Construction vehicular traffic and the operation of construction equipment shall be carefully supervised and controlled to avoid damage to existing utilities and facilities which are to remain in place. Any damage done to the Owner's property by the Contractor shall be immediately repaired or replaced by the Contractor.

ANTICIPATED WORK FLOW

It is anticipated that the contractor will have limited access to the site and building upon the Notice to Proceed and until such time as the work is substantially complete and occupied by the Owner.

It is the owner's intent to remain fully operations during the construction period. Clients will be directed to the entrance on the west of the site. Some clients will exit the building to the doors on the east of the site. All areas not in the shaded areas shown on the plans must be available to the Owner throughout the construction period.

The Owner access to the shaded areas on the plan during construction will be limited (access by staff only to rooms 106 and 141). For the most part, the contractor shall have full access to the areas shaded on the plan during normal construction times.

Any work required in the unshaded areas indicated on the plans must be coordinated and scheduled with the Owner to prevent interruption of services being provided by the Owner.

SUBSTANTIAL COMPLETION OF THE WORK

Upon substantial completion of any phase of the Work, the Owner will assume complete responsibility for the maintenance and operation of the heating, ventilating and air conditioning system and service utilities in that portion of the Project.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

Not Applicable

SECTION 01 21 00 ALLOWANCES

PART 1 - GENERAL

RELATED DOCUMENTS

The general provisions of Contract, including General and Supplementary Conditions and other General Requirements sections, apply to this section.

DESCRIPTION OF REQUIREMENTS

Definitions and Explanations: Certain requirements of the work related to each allowance are shown and specified in the Contract Documents. The allowance has been established in lieu of additional requirements for that work, and further requirements thereof (if any) will be issued by change order.

Include in the Contract Sum all allowances stated in the Contract Documents. Designate in the construction progress schedule the delivery dates of products specified under each allowance.

ALLOWANCE FOR PRODUCTS:

The amount of each allowance includes:

The cost of the product to the Contractor, less any applicable trade discounts.
Delivery to the site.
Labor required under the allowance, only when labor is specified to be included in the allowance.
Applicable taxes.

In addition to the amount of each allowance, include in the Contract Sum the Contractor's costs for:

Handling at the site, including unloading, uncrating and storage.
Protection from the elements and from damage.
Labor for installation and finishing, except where labor is specified to be a part of the allowance.
Other expenses required to complete the installation.
Contractor's and subcontractor's overhead and profit.

SELECTION OF PRODUCTS UNDER ALLOWANCES:

Selection and Purchase: At the earliest feasible date after the award of Contract, advise the Architect of the scheduled date when the final selection and purchase of each product or system described by each allowance must be accomplished in order to avoid delays in the performance of the work.

Notify Architect or any reasonable objections Contractor may have against any supplier, or party under consideration for installation.

Advise Architect as to the effect on the Construction Schedule anticipated by selections under consideration.

When requested by the Architect, obtain and submit proposals for the work of each allowance for use in making the final selections; include whatever recommendations for selection may be relevant to the proper performance of the work. Purchase products and systems as specifically selected (in writing) by the Architect.

Submit proposals and recommendations, for the purchase of the products or systems of allowances, in the form specified for change orders.

Change Order Data: Where applicable, include in each change order proposal both the quantity of the products being purchased and the unit cost, along with the total amount of the purchase to be made. Where requested, furnish survey-of-requirements data to substantiate the quantity, indicate applicable taxes, delivery charges, and amounts of applicable trade discounts.

The Contractor shall submit copies of all invoices for items purchased under cash allowances with his monthly application for payment. Where labor hours on the project site are involved, daily time tickets shall be signed by the Construction Manager and submitted with the payment application.

Change Order Mark-up: Except as otherwise indicated, comply with the provisions of the General Conditions and as herein specified.

Excess Materials: Submit invoices or delivery slips to indicate the actual quantities of materials delivered to the site for use in fulfillment of each allowance. Where economically feasible, and so requested by the Architect return unused materials to the manufacturer/supplier for credit to the Owner, after the installation has been completed and accepted. Where not economically feasible to return for credit, and so requested by the Architect, prepare unused materials for the Owner's storage, and deliver to the Owner's storage space as directed. Otherwise, disposal of excess materials is the Contractor's responsibility.

CONTINGENCY ALLOWANCE:

Contingency allowance shall be used only as directed for the Owner's purposes, and only by change orders which designate the amounts to be charged to the contingency allowance. Contractor's related costs have not been included in the Contract Sum (other than the allowance itself) for work so ordered to be charged to the contingency allowance. The change orders will include the costs and reasonable overhead/profit margins, as stipulated in the Supplementary Conditions. At the time of project closeout, unused amounts remaining in the contingency allowance shall be credited to the Owner by change order.

PART 2 - PRODUCTS

SCHEDULE OF ALLOWANCES

General: The following allowance amounts are included in the Contract Sum (Base Bid), for the corresponding units of work as described.

Allowances:

Allowance No. 1: General Construction Contract: A contingency allowance in the amount of five thousand dollars and no cents (\$5,000).

PART 3 - EXECUTION

Not Applicable.

END SECTION 01 21 00

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

DESCRIPTION OF REQUIREMENTS:

Definition: An alternate is an amount proposed by Bidders and stated on the Bid Form that will be added to or deducted from Base Bid amount if the Owner decides to accept a corresponding change in either scope of work or in products, materials, equipment, systems or installation methods described in Contract Documents.

Coordination: Coordinate related work and modify or adjust adjacent work as required to ensure that work affected by each accepted alternate is complete and fully integrated into the project. Many of the details indicate the work with alternate work included. If alternate work is not accepted, coordinate the work shown with that which is actual to be installed to provide a finished product with finishes as indicated, or if not indicated, matching adjacent materials and detail of a similar nature shown elsewhere on the drawings.

Notification: Immediately following award of Contract, prepare and distribute to each party involved, notification of the status of each alternate. Indicate whether alternates have been accepted, rejected or deferred for consideration at a later date. Include a complete description of negotiated modifications to alternates, if any.

Schedule: A "Schedule of Alternates" is included at the end of this section. Specification sections referenced in the Schedule containing requirements for materials and methods necessary to achieve the work described under each alternate.

Include as part of each alternate, miscellaneous devices, appurtenances and similar items incidental to or required for a complete installation whether or not mentioned as part of the alternate.

PART 2 - PRODUCTS (Refer to other specification sections for applicable information).

PART 3 - EXECUTION

SCHEDULE OF ALTERNATES:

Alternate #1: Shall consist of all materials, labor, and equipment required to provide additional painting, as specified in Section 09 91 00, Painting, from that included in the base bid. Provide painting of door frames and walls in the following rooms:

101 (unshaded section to the exterior door), 104 (including section to exterior door), 107, 115 (including section to exterior door), 125, 126, and 134.

The base bid shall include painting all new walls, all walls in 101 (shaded areas), 102, 103, 103A, 105, 119, and those walls specially indicated on the plans.

Alternate #2: Shall consist of all materials, labor, and equipment required to provide additional flooring and base as specified in Section 09 65 00, Resilient Flooring, from that included in the base bid. Provide new flooring and base in the following rooms:

101 (unshaded section to the exterior door), 104 (outside of hatched area, including sections to exterior doors), 107, 115 (including section to exterior door), 125, 126, and 134.

The base bid shall include flooring and base in all areas shaded on the plans including 101, 102, 103, 103A, shaded portions of 104, 105, and 19.

Alternate #3: Shall consist of all materials, labor, and equipment required to replace all existing ceiling tile as specified in Section 09 51 00, Acoustical Ceilings which are not replaced in the base bid. The existing grid will remain.

The base bid shall include new ceiling tile and grid in those areas as indicated on plan A9/A401 as required by the new work of this contract.

Alternate #4: Shall consist of all materials, labor, and equipment required to replace all existing 2' x 2' and 4' x 4' fluorescent light fixtures with new LED fixtures as indicated on sheet E0001 of the drawings.

The base bid shall include removing, cleaning, re-bulbing, and relocating the existing fixtures to their new location and a new LED fixture in Office 119.

Alternate #5: Shall consist of all materials, labor, and equipment required to provide additional painting, as specified in Section 09 91 00, Painting. Provide painting all of door frames and interior walls not included in the base bid and Alternate #1.

Alternate #6: Shall consist of all materials, labor, and equipment required to provide additional flooring and base as specified in Section 09 65 00, Resilient Flooring. Provide new flooring and base in all interior areas not included in the base bid and Alternate #2.

SECTION 01 26 20- WEATHER DELAYS

PART 1 - GENERAL

RELATED DOCUMENTS

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

EXTENSIONS OF CONTRACT TIME

If the basis exists for an extension of time in accordance with Paragraph 8.3 of the General Conditions, an extension of time on the basis of weather may be granted only for the number of Weather Delay Days in excess of the number of days listed as the Standard Baseline for that month.

STANDARD BASELINE FOR AVERAGE CLIMATIC RANGE

The Owner has reviewed weather data available from the National Oceanic and Atmospheric Administration and determined a Standard Baseline of average climatic range for the State of Tennessee.

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

Standard Baseline for each month of the year is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
12	11	8	7	7	6	7	5	4	5	6	11

ADVERSE WEATHER AND WEATHER DELAY DAYS

Adverse Weather is defined as the occurrence of one or more of the following conditions, substantiated by NOAA data, which prevents exterior construction activity or access to the site within twenty-four (24) hours:

Precipitation (rain, snow, or ice) in excess of one-tenth inch (0.1") liquid measure.

Temperatures which do not rise above 32 degrees F by 10:00 a.m.

Temperatures which do not rise above that specified for the day's construction activity by 10:00 a.m., if any is specified

Sustained wind in excess of twenty-five (25) m.p.h.

Standing snow in excess of one inch (1.00")

Adverse Weather may include, if appropriate, "dry-out" or "mud" days when all the following conditions are met:

For rain days above the Standard Baseline.

Only if there is a hindrance to site access or site work, such as excavation, backfill, and footings.

At a rate no greater than 1 make-up day for each day or consecutive days of rain beyond the Standard Baseline that total 1.0 inch or more liquid measure, unless specifically recommended otherwise by the Designer.

A Weather Delay Day may be counted if adverse weather prevents work on the project for fifty percent (50%) or more of the Contractor's scheduled work day, including a weekend day or holiday if Contractor has scheduled construction activity that day.

DOCUMENTATION AND SUBMITTALS

Submit daily job site work logs showing which and to what extent construction activities have been affected by weather on a monthly basis.

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

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

Organize claim and documentation to facilitate evaluation on a basis of calendar month periods, and submit in accordance with the procedures for Claims established in Article 15 of the General Conditions.

If an extension of the Contract Time is appropriate, it shall be effected in accordance with the provisions of Article 7 of the General Conditions, and the applicable General Requirements.

Extensions of Time not requested in a timely manner by the Contractor will not be granted at a later time.

SECTION 01 31 19 - PROJECT MEETINGS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to this section.

COORDINATION:

Coordinate both the listing and timing of reports and other activities required by provisions of this and other sections, so as to provide consistency and logical coordination between the reports. Maintain coordination and correlation between separate reports by updating at monthly or shorter time intervals. Make appropriate distribution of each report and updated report to all parties involved in the work including the Architect/Engineer and Owner. In particular, provide close coordination of the progress schedule, schedule of values, listing of subcontracts, schedule of submittals, progress reports, and payment requests.

PRELIMINARY PROGRESS SCHEDULE:

Bar-Chart Schedule: Submit a bar-chart type progress schedule not more than 7 days after the date established for commencement of the work. On the schedule indicate a time bar for each major category or unit of work to be performed at the site, properly sequenced and coordinated with other elements of work. Show completion of the work sufficiently in advance of the date established for substantial completion of the work.

FULLY-DEVELOPED PROGRESS SCHEDULE:

Bar-Chart Schedule: Based on the preliminary development of the progress schedule, if any, and on whatever updating and feedback may have occurred during the project start-up, secure critical time commitments for performing major elements of the work. Within 30 days of the date established for "commencement of the work", submit a comprehensive bar-chart type progress schedule indicating, by stage-coded symbols, a time bar for each major category or unit of work to be performed at the site; include minor elements of work which are, nevertheless, involved in overall sequencing of the work. Arrange schedule to show graphically the major sequences of work necessary for the completion of related elements of work. Arrange the schedule to show how substantial completion is scheduled to allow for the Architect's/Engineer's procedure for certification of substantial completion. Prepare and maintain the schedule on either a sheet of sufficient width (or else a series of sheets) to show the required data clearly for the entire Construction Time. Prepare the schedule on sheets of stable transparency, or other reproducible material, to permit reproduction for the required distribution.

PROGRESS MEETINGS, REPORTING:

Scheduling and Attendance: The Architect, in cooperation with the Owner and the Contractor, will schedule and administer a Pre-Construction Meeting, periodic Progress Meetings, and other specially called or required meetings.

Representatives of the Owner and Architect will attend.

Representatives of the Contractor, subcontractors, and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.

Initial Progress Meeting: Schedule initial progress meeting, recognized as "Pre-Construction Meeting", for a date not more than 15 days after date of commencement of the work. Use it as an organizational meeting and to review administrative, procedural, and temporary facilities requirements of the Contract Documents, other responsibilities and personnel assignments, and to ask questions concerning the Work.

The Pre-Construction meeting shall be attended by the Contractor's:

(Office) Job Manager
(Field) Job Superintendent
Major subcontractors' representatives
Major suppliers' representatives
Others, as desired.

Daily Reports: Maintain a daily log, recording the following information concerning events at the site; and make available to Architect/Engineer at the site for his review:

List of subcontractors at the site.
List of separate contractors at the site.
Approximate count of personnel at the site, by trade.
Work being performed, with location.
High/low temperatures, general weather conditions.
A list of visitor names, including officials, owner's representatives, and other authorities and a record of their observations.
Materials received and major equipment arrival.
Situation or circumstances which could delay work or give cause for claims for extension of time or added cost.
Report of accidents, injuries, etc.
Meetings and significant decisions.
Unusual events
Stoppages, delays, shortages, losses.
Emergency procedures, field orders.
Orders/requests by governing authorities.
Change orders received, implemented.
Services connected, disconnected.
Equipment or system tests and start-ups.
Partial completions, occupancies.
Substantial completions authorized.

Progress Meetings: Progress meetings will be scheduled and conducted at the Project site at least bi-weekly, or weekly when deemed advisable by the Architect. They are intended to provide an opportunity for the Contractor to review and submit applications for payment, and attachments, and for a general review of the progress of the Work, aimed at identifying and mitigating impediments to timely completion.

The Progress Meetings shall be attended by the Contractor's:

(Office) Job Manager
(Field) Job Superintendent
Subcontractors' representatives, as befits the agenda
Suppliers' representatives, as befits the agenda
Others, as desired.

SCHEDULE OF VALUES:

General: Prepare the schedule of values, as required by the General Conditions, in conjunction with the preparation of the progress schedule. Coordinate preparation of schedule of values and progress schedule. Correlate line items with other administrative schedules and the forms required for the work, including progress schedule, payment request form, listing of subcontractors, schedule of allowances, schedule of alternates, etc. Provide breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of payment requests and progress reports. Break down principal subcontract amounts into several line items. Round off to nearest whole dollar, but with total equal to Contract Sum.

Material/Fabrication Values: For each unit of work where payment requests will be made on account of materials or equipment purchased, fabricated or delivered, but not yet installed, show the "initial value" for payment request and "value added" for subsequent stage or stages of completion on that unit of work.

Time Coordination: In coordination of initial submittals and other administrative "start-up" activities, submit the schedule of values to the Architect/Engineer at the earliest feasible date, but in no case later than 7 days before initial payment request is to be submitted.

Margins of Cost: In general, each item in the schedule of values and in payment requests shall be established to be complete with its total expenses and proportionate share of general overhead and profit margin. Except as otherwise indicated, those major cost items, that are not directly the cost of actual work-in-place, such as distinct temporary facilities, may be either shown as line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

Close Out Documentation: Include in the schedule of values a line item exclusively for the compiling and submittal of close out documentation (also referred to as record documents) as identified in Section 01 70 00 of the specifications, and other portions of the specifications. This line item shall include a sum equal to a minimum of one percent (1%) of the total contract amount. If separate contracts are awarded, each shall set aside a minimum of one percent of the total contract amount for the close out requirements.

PAYMENT REQUESTS:

General: Except as otherwise indicated, the progress payment cycle is to be regular. Each application must be consistent with previous applications and payments. Certain applications for payment, such as the initial application, the application at substantial completion, and the final payment application involve additional requirements.

Waivers Delays: Each progress payment must be submitted with Contractor's waiver for the period of construction covered by application. At the Contractor's option, each progress payment may be submitted with waivers from the subcontractors or sub-subcontractors and suppliers for the previous period of construction covered by the previous application. The final payment application must be submitted together with or preceded by final or complete waivers from every entity involved with performance of the work covered by the payment request.

Waiver Forms: Submit waivers on forms, and executed in a manner, acceptable to Owner.

Payment Application Times: The "date" for each progress "payment" is as indicated in Owner-Contractor Agreement or, if none is indicated therein, it is the 15th day of each month. The period of construction work covered by each payment request is period indicated in Owner Contractor Agreement or, if none is indicated therein, it is period ending 15 days prior to date for each progress payment, and starting day following end of preceding period.

Payment Application Forms: AIA Document G702 and Continuation Sheets; available from "Publications, A Division of the AIA Service Corporation", 1735 New York Avenue NW, Washington, DC 20006 (also available at most local AIA chapter offices) and Payment Authorization.

Application Preparation: Except as otherwise indicated, complete every entry provided for on the form, including notarization and execution by authorized persons. Incomplete applications will be returned by Architect/Engineer without action. Entries must match current data of schedule of values and progress schedule and report. Listing must include amounts of change orders issued prior to last day of the "period of construction" covered by application.

Updated Project Schedule: Each application for payment must be accompanied by an updated project schedule which is up to date through the end of the pay period for which the application is requesting payment. Applications which are not accompanied by an updated schedule shall be held until the schedule is received.

Initial Payment Application: The principal administrative actions and submittals which must precede or coincide with submittal of contractor's first payment application can be summarized as follows, but not necessarily by way of limitation:

- Listing of subcontractors and principal suppliers and fabricators.
- Schedule of values.
- Progress schedule (preliminary if not final).
- Copies of acquired building permits and similar authorizations and licenses from governing authorities for current performance of the work.
- Performance and/or payment bonds (if not submitted with executed Agreement).
- Evidence satisfactory to Owner that Contractor's insurance coverages have been secured (if not submitted with Executed Agreement).
- Data needed to acquire Owner's insurance coverage.
- Initial progress report, including report of pre-construction meeting.

Application at Time of Substantial Completion: Following issuance of Architect's or Engineer's final "certificate of substantial completion", and also in part as applicable to prior certificates on portions of completed work as designated, a "special" payment application may be prepared and submitted by Contractor. The principal administrative actions and submittals which must proceed or coincide with such special applications can be summarized as follows, but not necessarily by way of limitation:

- Occupancy permits and similar approvals or certifications by governing authorities and franchised services, assuring Owner's full access and use of completed work.
- Warranties (guarantees), maintenance agreements and similar provisions of contract documents.
- Test/adjust/balance records, maintenance instructions, meter readings, start-up performance reports, and similar change-over information germane to Owner's occupancy, use, operation and maintenance of completed work.
- Final cleaning of the work.
- Application for reduction (if any) of retainage, and consent of surety.
- Advice to Owner on coordination of shifting insurance coverages, including proof of extended coverages as required.
- Listing of Contractor's incomplete work, recognized as exceptions to Architect's/Engineer's certificate of substantial completion.
- Change over of door locks and other Contractor's access provisions to Owner's property.

Final Payment Application: The administrative actions and submittals which must precede or coincide with submittal of contractor's final payment application can be summarized as follows, but not necessarily by way of limitation:

Completion of project closeout requirements.
Completion of items specified for completion beyond time of substantial completion (regardless of whether special payment application was previously made).
Assurance, satisfactory to Owner, that unsettled claims will be settled and that work not actually completed and accepted will be completed without undue delay.
Transmittal of required project construction records to Owner.
Proof, satisfactory to Owner, that taxes, fees and similar obligations of Contractor have been paid.
Removal of temporary facilities, services, surplus materials, rubbish and similar elements.
Consent of surety for final payment.

Application Transmittal: Submit 3 executed copies of each payment application, one copy of which is completed with waivers of lien and similar attachments, and recording appropriate information related to application in a manner acceptable to Architect/Engineer.

PART 2 - PRODUCTS (not applicable)

PART 3 - EXECUTION (not applicable)

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to this section.

DESCRIPTION OF REQUIREMENTS:

The types of submittal requirements specified in this section include shop drawings, product data, samples and miscellaneous work-related submittals. Individual submittal requirements are specified in applicable sections for each unit of work. Refer to other Division-1 sections and other contract documents for requirements of administrative submittals.

Refer to Paragraph 3.12 of the General Conditions for provisions pertaining to shop drawings, product data and samples.

Definitions: Work-related submittals of this section are categorized for convenience as follows:

Shop drawings include specially-prepared technical data for this project, including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form for general application to a range of similar projects.

Product data include standard printed information on materials, products and systems; not specially-prepared for this project, other than the designation of selections from among available choices printed therein.

Samples include both fabricated and unfabricated physical examples of materials, products and units of work; both as complete units and as smaller portions of units of work; either for limited visual inspection or (where indicated) for more detailed testing and analysis.

Mock-ups are a special form of samples, which are too large or otherwise inconvenient for handling in specified manner for transmittal of sample submittals.

Miscellaneous submittals related directly to the work (non administrative) include warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock, and similar information, devices and materials applicable to the work and not processed as shop drawings, product data or samples.

GENERAL SUBMITTAL REQUIREMENTS:

Scheduling: Where appropriate in administrative submittals (listing of products, manufacturers, suppliers and subcontractors, and in job progress schedule), show principal work-related submittals and time requirements for coordination of submittal activity with related work in each instance.

Coordination and Sequencing: Coordinate preparation and processing of submittals with performance of the work so that work will not be delayed by submittals. Coordinate and sequence different categories of submittals for same work, and for interfacing units of work, so that one will not be delayed for coordination of A/E's review with another.

Take special care to promptly prepare submittals with long lead times or that are needed early in the construction process. Those submittals requiring special attention include, but is not limited to, hollow metal frames.

Unless otherwise approved by the Architect, all submittals requiring Architect's review shall be submitted no later than forty-five (45) calendar days after the award of the construction contract.

Preparation of Submittals: Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, supplier's name, submittal name, location of submittal in the building and similar information to distinguish it from other submittals. Number all submittals in consecutive order as submitted to the Architect. In addition to the consecutive order number, provide number on each submittal that corresponds the specification section which applies to that submittal.

Contractor's Review: Show Contractor's executed review and approval marking and provide space for Architect's "Action" marking. Package each submittal appropriately for transmittal and handling. Submittals which, in the judgement of the architect, show evidence of not being properly reviewed by the Contractor, or not properly labeled, or are received from sources other than through Contractor's office shall cause for them to be returned by A/E "without action". Delays for submittals returned to the Contractor for these reasons shall be the sole responsibility of the Contractor.

Delivery: All submittals shall be accompanied by a letter of transmittal containing an enumeration and description of the submittals and , unless otherwise specified, shall be delivered to:

Community Tectonics Architects, Inc.
7610 Gleason Drive, Suite 303
Knoxville, TN 37919

Submittals shall be delivered to the Architect only through the General Contractor. Samples will be accepted directly from suppliers, provided that the Architect is notified by the Contractor that such delivery has been authorized by the Contractor.

Requirements: Shop drawings, product literature, and samples will be required for items listed hereinafter in the various sections of the specifications. The Architect reserves the right to request samples of proposed substitutions for materials or equipment specified, whether or not submittals of the materials and equipment specified are called for.

SPECIFIC-CATEGORY SUBMITTAL REQUIREMENTS:

General: Except as otherwise indicated in individual work sections, comply with requirements specified herein for each indicated category of submittal. Provide and process intermediate submittals, where required between initial and final, similar to initial submittals.

Shop Drawings: Provide newly-prepared information, with graphic information at accurate scale (except as otherwise indicated), with name of preparer indicated (firm name). Show dimensions and note which are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards, and special coordination requirements. Do not allow shop drawing copies without appropriate final "Action" markings by Architect/Engineer to be used in connection with the work.

Submittal: Whenever possible, submit shop drawings electronically. Where not possible, submit three sets of drawings that are capable of being reproduced by a standard scan and print technique. The Architect shall review and stamp one "master set", have that master set scanned and then print any additional required copies necessary for Architect's use. The Architect will then return the stamped "master set" electronically to the Contractor for his printing of copies for maintenance manuals and for distribution to all other parties involved.

Product Data: Collect required data into one submittal for each unit of work or system; and mark that master copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, and special coordination requirements. Where possible, submit product data in electronic format. Maintain one set of product data (for each submittal) at project site, available for reference by Architect/Engineer and others.

Submittals: Do not submit product data, or allow its use on the project, until compliance with requirements of contract documents has been confirmed by Contractor. Submittal is for approval, information and record, unless otherwise indicated. Submit the same number of copies as specified for Shop Drawings above. Review, stamp, scan and distribution of product data shall be the same as referenced for Shop Drawings above.

Installer's Copy: Do not proceed with installation of materials, products or systems until final copy of applicable product data is in possession of Installer.

Submittals: Do not submit product data, or allow its use on the project, until compliance with requirements of contract documents has been confirmed by Construction Manager. Submittal is for approval, information and record, unless otherwise indicated. Submit the same number of copies as specified for prints above.

Installer's Copy: Do not proceed with installation of materials, products or systems until final copy of applicable product data is in possession of Installer.

Samples: Provide two sets of each sample plus the number required by the contractor. Two sets will be retained by the Architect. All others will be returned.

Provide units identical with final condition of proposed materials or products for the work. Include "range" samples (not less than 3 units) where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where Architect's/Engineer's selection is required. Prepare samples to match Architect's/Engineer's sample where so indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture and "kind" by Architect/Engineer. Architect/Engineer will not "test" samples (except as otherwise indicated) for compliance with other requirements, which are therefore the exclusive responsibility of Contractor.

Quality Control Set: Maintain returned final set of samples at project site, in suitable condition and available for quality control comparisons by Architect/Engineer, and by others.

Color Selections: No color selections shall be made by the Architect for any submittal of interior products for the facility until samples and color selectors for **all items requiring interior color selection** have been submitted. Similarly, no color selections shall be made by the Architect for any submittal of exterior products for the facility until samples and color selectors for **all items requiring exterior color selection** have been submitted.

It shall be the responsibility of the contractor to obtain and submit all color samples to the Architect at the earliest possible time to avoid delays in the construction process. Failure of the contractor to coordinate and provide **all color samples** in a timely manner shall not constitute justification for extensions of time for the work of the contract.

Mock-Ups: Mock-ups and similar samples specified in individual work sections are recognized as a special type of sample. Comply with requirements for "samples" to greatest extent possible, and process transmittal forms to provide a record of activity.

Inspection and Test Reports: Classify each as either "shop drawing" or "product data", depending upon whether report is uniquely prepared for project or a standard publication of workmanship control testing at point of production, and process accordingly.

Warranties: Refer to "Products" section for specific general requirements on warranties, product/workmanship bonds, and maintenance agreements. In addition to copies desired for Contractor's use, furnish 2 executed copies, except furnish 2 additional copies where required for maintenance manuals.

Standards: Where workmanship at project site and elsewhere is governed by standard, furnish copies of applicable standards to fabricators, installers and others involved in performance of the work.

Closeout Submittals: Refer to individual work sections and to "closeout" sections for specific requirements on submittal of closeout information, materials, tools and similar items.

Record Document Copies: Furnish **one set of reproducible drawings**.

Maintenance/Operating Manuals: Furnish 2 bound copies.

Materials and Tools: Refer to individual work sections for required quantities of spare parts, extra and overrun stock, maintenance tools and devices, keys, and similar physical units to be submitted.

General Distribution: Provide additional distribution of submittals (not included in foregoing copy submittal requirements) to subcontractors, suppliers, fabricators, installers, governing authorities and other as necessary for proper performance of the work. Include such additional copies in transmittal to Architect/Engineer where required to receive "Action" marking before final distribution. Record distributions on transmittal forms.

ACTION ON SUBMITTALS:

Architect's Review of Submittals: The Architect, in checking submittals, will not check dimensions, quantities, electrical characteristics of equipment, details as strictly set forth in the specifications, nor coordination of work between various trades, these being the responsibility of the Contractor. The Architect may call attention to obvious discrepancies between the submittal and the Contract Documents concerning such items as dimensions and quantities, but shall assume no responsibility for the accuracy thereof.

Time Required for Architect's Review: Shop drawings shall be submitted in time to allow not less than two weeks for processing by the Architect, plus an additional week for structural, mechanical, electrical, and all submittals which must be reviewed by the Architect's consultants.

Architect's/Engineer's Action: Where action and return is required or requested, Architect/Engineer will review each submittal, mark with "Action". Where submittal must be held for coordination, Contractor will be so advised by the Architect.

Final Unrestricted Release: Work may proceed, provided it complies with contract documents, when submittal is returned with the following:

Marking: "Approved", or "No Exceptions Taken".

Final-But-Restricted Release: Work may proceed, provided it complies with notations and corrections on submittal and with contract documents, when submittal is returned with the following:

Marking: "Approved as Noted", or "Make Corrections Noted".

Returned for Resubmittal: Do not proceed with work. Revise submittal in accordance with notations thereon, and resubmit without delay to obtain a marking (or unmarked submittals where a marking is required) to be used in connection with performance of the work:

Marking: "Revise and Resubmit" or "Amend and Resubmit".

Not Approved: Work shown is not in accordance with the Contract requirements and is rejected. Make new submittals.

Marking: "Resubmit as Specified", or "Rejected - See Remarks".

Other Action: Where submittal is returned for other reasons, with Architect/Engineer's explanation included, it will be marked to indicate such reason.

PART 2 - PRODUCT (not applicable)

PART 3 - EXECUTION (not applicable)

SECTION 01 35 16 - ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

RELATED DOCUMENTS

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

SUMMARY

This Section specifies administrative and procedural requirements for cutting and patching.

Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work. Requirements of this Section apply to mechanical and electrical installations.

Demolition of selected portions of the building for alterations is included in Section 02 41 19, "Selective Structure Demolition."

QUALITY ASSURANCE

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

Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:

- Primary operational systems and equipment.
- Air or smoke barriers.
- Water, moisture, or vapor barriers.
- Fire protection systems.
- Noise and vibration control elements and systems.
- Control systems.
- Communication systems.
- Electrical wiring systems.

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

PART 2 - PRODUCTS

MATERIALS

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

PART 3 - EXECUTION

INSPECTION

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

Before proceeding, meet at the site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

PREPARATION

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

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

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

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

PERFORMANCE

General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay. Cutting of existing or new work shall be held to a minimum necessary and shall be done neatly and orderly. The Contractor shall be responsible for the proper patching of all cut work whether or not cut by his own workmen or by subcontractors.

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

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

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

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

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

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

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

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

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

Where removal of walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary to achieve uniform color and appearance.

Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken area containing the patch, after the patched area has received primer and second coat.

Patch, repair or rehang existing ceilings as necessary to provide an even plane surface of uniform appearance.

EXISTING CONSTRUCTION

Cut and patch existing work that is to remain in place as necessary for the installation of the new Work, including holes, sleeves, and thimbles for installation of mechanical, electrical and all equipment.

Patching shall include work associated with existing wall construction that is indicated to have a fire resistance rating. At all existing walls shown to have a rating, inspect wall carefully for penetrations in wall that would breach the integrity of the wall. In these locations, patch existing walls with construction matching existing and of sufficient composition as to provide a rating at least equal to the existing wall in which the patch occurs.

New work to be performed in existing areas included structural, mechanical and electrical systems. Where existing conduit, piping, wiring, or other utilities or entities that penetrate rated walls, remove items that penetrate and patch walls as required to maintain its indicated fire resistance rating.

CLEANING

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

SECTION 01 41 00 - REGULATORY REQUIREMENTS

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to this section.

SUMMARY

Comply with the following building code and regulatory requirements in relation to the work of this Contract.

CODES AND REGULATIONS:

This list is provided as a convenience to the Contractor and is not to be considered all inclusive of codes and regulation that may apply. Work shall conform to the requirements of:

- 2012 International Building Code, excluding Chapter 11 and 34, Section 3411.
- 2012 International Mechanical Code
- 2012 International Plumbing Code
- 2012 International Fuel Gas Code
- 2012 International Fire Code
- 2012 Energy Conservation Code
- 2012 International Existing Building Code
- 2012 Life Safety Code
 - (NFPA No. 101-2012)
 - (NFPA Standards as listed in NFPA 1, Chapter 2 – excluding NFPA 5000)
- 2017 National Electric Code, NFPA 70
- 2007 Tennessee Elevator Safety Board Rules
 - Chapter 0800-3-4
 - Elevators, Dumbwaiters, Escalators, and other Lifts
- 2007 Board of Boiler Rules
 - Chapter 0800-3-3
 - Boiler Inspections
- ASHRAE standard 62.1-2013, Ventilation for Acceptable Indoor Air Quality
- Tennessee Chapters
 - 0780-2-1, Electrical Installations
 - 0780-2-2, Codes & Standards
 - 0780-2-3, Plan & Spec Review
 - 0780-2-18, Equitable Restrooms

ADA Title II, State and local government facilities must follow the requirements of the 2010 standards, including both the Title II regulations at 28 CFR 35.151 and the 2004 ADAAG at 36 CFR part 1191, appendices B and D. In the few places where requirements between the two differ, the requirements of 28 CFR 35.151 prevail.

ADA Title III, Public accommodations and commercial facilities must follow the requirements of the 2010 standards, including both the Title III regulations at 28 CFR part 36, subpart D: and the 2004 ADAAG at 36 CFR part 1191, appendices B and D. In the few places where requirements between the two differ, the requirements of 28 CFR part 36, subpart D prevail.

TDEC Division of Water Pollution Control, Tennessee water quality control act of 1977 (TCA 69-3-101)

CODE STANDARDS

Heating, ventilating and air conditioning work shall conform to requirements of NFPA No. 90A, Standard for the Installation of Air Conditioning and Ventilation Systems.

REGULATIONS:

Electrical work shall conform to applicable regulations of the State of Tennessee, Department of Insurance, Division of Fire Prevention; and to applicable regulations of local Utilities Board with serve the Project.

MATERIAL AND TESTING STANDARDS:

Components of the work shall conform to requirements of American Society for Testing and Materials (ASTM) standards, American National Standards Institute (ANSI) standards, and trade association standards, as listed in the various other sections of the specifications.

PART 2 - PRODUCTS

(Not applicable)

PART 3 - EXECUTION

(Not applicable)

END OF SECTION 01 41 00

SECTION 01500 - CONSTRUCTION FACILITIES & TEMPORARY CONTROLS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to this section.

DESCRIPTION OF REQUIREMENTS:

Definitions: Specific administrative and procedural minimum actions are specified in this section, as extensions of provisions in General Conditions and other contract documents. Nothing in this section is intended to limit types and amounts of temporary work required, and no omission from this section will be recognized as an indication by Architect or Engineer that such temporary activity is not required for successful completion of the work and compliance with requirements of contract documents. Provisions of this section are applicable to, but not by way of limitation, utility services, construction facilities, security/protection provisions, and support facilities.

QUALITY ASSURANCE:

General: In addition to compliance with governing regulations and rules/recommendations of franchised utility companies, comply with specific requirements indicated and with applicable local industry standards for construction work (published recommendations by local consensus "building councils").

Conservation: In compliance with Owner's policy on energy/materials conservation, install and operate temporary facilities and perform construction activities in manner which reasonably will conserve and avoid waste of energy and materials, including water.

JOB CONDITIONS:

General: Establish and initiate use of each temporary facility at time first reasonably required for proper performance of the work. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced the need.

Conditions of Use: Install, operate, maintain and protect temporary facilities in a manner and at locations which will be safe, non-hazardous, sanitary and protective of persons and property, and free of deleterious effects.

Owner Provided Utilities: If, as determined by the Owner and the Architect, utilities are being abused by the contractor or his subcontractors, the Owner shall terminate use of those utilities deemed to have been inappropriately used. If this occurs, the contractor shall be responsible for providing those discontinued services, as required for the completion of the work, at his own cost.

PARTS 2 and 3 - PRODUCTS AND EXECUTION

TEMPORARY UTILITY SERVICES:

The types of services required include, but not by way of limitation, water, surface drainage, electrical power and telephones. Where possible and reasonable, connect to existing franchised utilities for required services; and comply with service companies' recommendations on materials and methods, or engage service companies to install services.

Locate and relocate services (as necessary) to minimize interference with construction operations.

Potable Water: Contractor shall be provided temporary potable water facilities at locations and conditions as they exist at the site. The owner shall have the right to direct connection points.

Non-potable Water: Non-potable water shall not be used.

Temporary Power: Contractor shall be provided temporary power service at locations and conditions as they exist at the site. Provide connections to existing service with ground-fault circuit interrupter features, activated from each circuit of 20-amp or less rating. The owner shall have the right to direct connection points.

Telephone: Provide and pay for a single party telephone within field office, for use of persons working on the site. All long distance or toll calls shall be paid for by party making call, unless otherwise authorized by the Contractor. Supply telephone number to architect. A cell phone, held by the superintendent but available to on site personnel will be considered acceptable.

TEMPORARY CONSTRUCTION FACILITIES:

The types of temporary construction facilities required include, but not by way of limitation, water distribution, drainage, enclosure of work, heat, ventilation, electrical power distribution, lighting, hoisting facilities, and ladders. Provide facilities reasonably required to perform construction operations properly and adequately.

Water distribution: Distribute water to areas needed for the performance of the work.

Enclosure: If required for the performance of the work, provide temporary enclosure to ensure adequate workmanship and protection from weather and unsatisfactory ambient conditions for the work, including enclosure where temporary heat is used. Provide fire-retardant treated lumber and plywood where required to prevent fire hazard.

Heat and Ventilation: Use of the building's permanent heating system to provide temporary heat will be permitted. Any damage caused to the building or to the permanent system as a result of such use shall be made good at no additional cost to the Owner.

Electrical Power: Provide weatherproof, grounded, power distribution system sufficient to accommodate construction operations requiring power, use of power tools, lighting, and start-up testing of permanent electric-powered equipment prior to its permanent connection to electrical system. Provide overload protection. Locate multiple outlets (not less than 4-gang) at each story of construction, spaced so that entire area of construction can be reached by power tools on a single extension cord of 100' maximum length.

Lighting: Provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug-in task lighting. Provide uniformly spaced general lighting equivalent to not less than one 200-watt incandescent lamp per 1000 sq. ft. of floor area, and one 100-watt lamp per 50' of corridor and per flight of stairs.

Access Provisions: Provide temporary enclosures as required to maintain owner's existing egress and ingress from the existing buildings. Provide ladders and similar temporary access elements as reasonably required to perform the work and facilitate its inspection during installation. Comply with reasonable requests of governing authorities performing inspections.

Roads: Maintain existing roads during construction.

EXISTING FACILITIES:

Provide temporary weathertight closures for all exterior openings when it is necessary to protect the Work from the weather and to permit the use of temporary heat.

Maintain emergency exits at all required existing exit doors during normal operating hours or otherwise when existing facilities are occupied. Maintain a clear path of emergency exit from these exits.

BARRICADES AND SPECIAL CONTROLS:

Temporary Fencing: If required for the successful performance of the work, provide temporary approved temporary fencing around this project site to prevent accidental intrusion by other than authorized personnel. Provide configuration/layout of fencing as approved by owner to minimize interference with owner's operations.

Provide all temporary barriers and warning signs around the site to control access of unauthorized persons to work areas, and as required by law.

Provide temporary barriers and warning signs at excavations that must be left open during non working hours, including warning lights at night.

CONSTRUCTION AIDS:

Provide all necessary staging, scaffolding, hoisting equipment, and ladders as required for the installation of work under this Contract.

SECURITY/PROTECTION PROVISIONS:

Temporary security and protection provisions provided are the sole responsibility of the Contractor. He shall make provisions intended to minimize property losses, personal injuries and claims for damages at project site. Means and methods employed are the option of the Contractor, and he shall bear full responsibility for loss or damage occurring on the site during the construction period.

Weather Protection: Provide at all times protection against rain, wind, storms, frost, or heat so as to maintain all work, materials, equipment, and fixtures free from injury or damage. At end of days work, all new work likely to be damaged by weather conditions shall be covered.

TEMPORARY SUPPORT FACILITIES:

The types of temporary support facilities required include, but not by way of limitation, field offices, storage sheds, sanitary facilities, drinking water, first aid facilities, telephone, project identification signs, clean -up facilities, waste disposal service, rodent/pest control and similar miscellaneous general services, all as may be reasonably required for proficient performance of the work and accommodation of personnel at the site including Owner's and Architect's/Engineer's personnel. Discontinue and remove temporary support facilities, and make incidental similar use of permanent work of the project, only when and in manner authorized by Architect/Engineer; and, if not otherwise indicated, immediately before time of substantial completion. Locate temporary support facilities for convenience of users, and for minimum interference with construction activities.

Contractor's Field Office: If required for the successful performance of the work, provide adequate office space for field office personnel and for incidental use of subcontractor's personnel.

Sanitary Facilities: Provide self-contained toilet units of type acceptable to governing authorities, adequate for use of personnel at project site. At all stages of construction keep toilets clean and in sanitary condition; provide tissue and suitable holder.

STOLEN OR VANDALIZED PROPERTY

Repair any damage or replace any loss which may occur during the period of contract to any part of work, materials, or equipment, including existing equipment and items of the Owner.

RODENT AND VERMIN CONTROL

Provide on job site ample and suitable containers with covers and remove from site all refuse from meals eaten on the site and other rodent or vermin attracting refuse.

During construction period, exercise all precaution to control entry and breeding of rodents and vermin.

FIRE EXTINGUISHERS

Provide types, sizes, numbers and locations as would be reasonably effective in extinguishing fires during early stages, by personnel at project site.

TERMINATION OF TEMPORARY FACILITIES

At the earliest period after completion of the work requiring temporary facilities, remove temporary facilities and restore existing conditions back to their condition at the commencement of the work under this contract.

CLEANING

Clean spaces that were occupied by temporary work. Remove debris, rubbish, and surplus materials from site. Burning or burying not permitted on site unless otherwise approved by Architect.

ENVIRONMENTAL PROTECTION

Review exposure to possible environmental problems, with Owner and Architect. Establish procedures and discipline among tradesmen and provide needed facilities which will protect against environmental problems (pollution of air, water and soil, excessive noise, and similar problems). Comply with pertinent applicable codes ordinances and governing regulations.

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to this section.

DESCRIPTION OF REQUIREMENTS:

Definitions: Project closeout is the term used to describe certain collective project requirements, indicating completion of the Work, that are to be fulfilled near the end of the Contract time in preparation for final acceptance and occupancy of the Work by the Owner, as well as final payment to the Contractor and the normal termination of the Contract.

Specific requirements for individual units of work are included in appropriate sections of this specification.

Time of closeout is directly related to "Substantial Completion", therefore, the time of closeout may be either a single time period for the entire Work or a series of time periods for individual elements of the Work that have been certified as substantially complete at different dates. This time variation, if any, shall be applicable to the other provisions of this section.

PREREQUISITES TO SUBSTANTIAL COMPLETION:

General: Complete the following before requesting the Architect/Engineer's inspection for certification of substantial completion.

Statement of Project Condition:

A written statement that the Work is sufficiently complete, that the Owner may occupy the Work for the use for which it is intended and is therefore substantially complete.

Items to be Completed:

A list of items to be completed or corrected and dates scheduled for completion and correction of each item.

Payment Request:

In the progress payment request that coincides with, or is the first request following, the date substantial completion is claimed, show either 100% completion for the portion of the Work claimed as "substantially complete", or list incomplete items, the value of incomplete work, and reasons for the Work being incomplete.

Include supporting documentation for completion as indicated in these contract documents.

Accounting of Changes to the Contract Sum:

Submit a statement showing an accounting of changes to the Contract Sum.

Insurance Change-over Requirements:

Advise Owner in writing of pending insurance change-over requirements.

Warranties, Certificates, and other Agreements:

Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.

Submittals for Review (Record Documents):

Submit for review by Owner's representative two (2) sets of prints of record drawings, maintenance manuals, product data and similar final record information. After review, one (1) set of marked-up prints and a listing of additional information required for completion of maintenance manuals, etc. shall be returned for correction.

Although the building (or portions thereof) may, if to the advantage of the owner, be considered substantially complete before the close out documents (also called record documents) indicated above have been submitted, however, the requirements indicated above are prerequisites for substantial completion and will be listed on the substantial completion form as a item remaining for completion. Retainage will not be reduced below five percent (5%) of the contract amount until the close out documents (record documents) have been submitted.

Releases and Conditional Certificate of Occupancy:

Obtain and submit to the owner's representative, releases enabling the Owner's full, and unrestricted use of the Work and access to services and utilities for each phase of the Project as it is completed and ready for occupancy. Where required, include occupancy permits, operating certificates, and similar releases.

If final approvals cannot be submitted, submit, at a minimum, a "Conditional" Certificate of Occupancy from the authorities having jurisdiction and the State Fire Marshal's Office for each phase of the Project as it is completed and ready for occupancy.

Tools, Spare Parts, Extra Material Stock:

Deliver tools, spare parts, extra stock of material and similar physical items to the Owner.

Locks, Keys/Cards:

Make the final change-over of locks and transmit the keys to the Owner or, at owner's option, make arrangements for delivery of locks and keys directly to owner by manufacturer for installation by owner. Advise the Owner's personnel of the change-over in security provisions.

Systems Testing and Instruction:

Complete start-up testing of systems, and instructions of the Owner's operating and maintenance personnel. Refer to specific equipment sections for details. Discontinue or change over and remove temporary facilities and services from the project site, along with construction tools and facilities, mock-ups, and similar elements.

All instruction sessions shall be video taped in CD, or DVD format. Provide two professional quality copies of each tape, with cataloging references, to the Owner for future reference and training.

Submit certification, signed by the owner's representative receiving the instruction, that all equipment and systems have been tested and balanced and demonstrated in the presence of the Owner's Representative and are fully operational.

Operating and Maintenance Manuals:

Submit properly bound and labeled operating and maintenance manuals as required in the specifications. Include with the O&M manuals all shop drawings, product data, and samples associated with those items included in the manuals.

Clean-up Requirements:

Complete final cleaning up requirements, including touch-up painting of marred surfaces. Touch-up and otherwise repair and restore marred exposed finishes. Include both building and site.

Consent of Surety:

Submit consent of surety to release for reduction of retainage.

Inspection Procedures: Upon receipt of the Contractor's request for inspection, the Architect/Engineer will, within a reasonable time, either schedule a date with the Owner's Representatives and the Architect and his consultants to proceed with inspection, or advise the Contractor of unfulfilled prerequisites.

Following the initial inspection, and after the requirements listed above have been met, the Architect will either prepare the Certificate of Substantial Completion on AIA Document G704, accompanied by the Contractor's list of items to be completed or corrected as verified and amended by the Architect, or will advise the Contractor in writing of work which must be performed before the certificate will be issued.

The Architect will again notify the Owner's Representatives and repeat the inspection when requested in writing by the Contractor, and when assured that the work has been substantially completed. When the Architect concurs that the Work is substantially complete, he will prepare the form and submit it to the Contractor and Owner for their written acceptance.

Results of the completed substantial completion inspection will form the initial "punch-list" for final acceptance.

PREREQUISITES TO FINAL ACCEPTANCE:

General: Complete the following before requesting the Architect/Engineer's final inspection for certification of final acceptance and final payment, as required by the General Conditions. List known exceptions, if any, in the request:

Affidavit:

Submit Contractor's affidavit.

Final Payment Request:

Submit the final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required. Include Release or Liens from all subcontractors and material suppliers.

Final Statement:

Submit updated final statement, accounting for final additional changes to the Contract Sum. Provide assurance, satisfactory to Owner, that unsettled claims will be settled and that work not actually completed and accepted will be completed without undue delay. Provide proof, satisfactory to Owner, that taxes, fees and similar obligations of Contractor have been paid.

Statement of Compliance:

Submit written certification that the Contract Documents have been reviewed and that the Work has been inspected by a qualified person authorized by the Contractor for compliance with Contract Documents and that Work has been completed in accordance with those Contract Document.

Statement of Completion:

Submit a certified copy of the Architect/Engineer's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and that the Work is completed and ready for final inspection.

Certification of Equipment and Systems Operation

Submit certification that all equipment and systems have been tested and balanced and demonstrated in the presence of the Owner's Representative and are fully operational.

Acceptance by Authorities Having Jurisdiction:

Submit inspection reports or letters of acceptance for items requiring approval from a governing authority, and their unconditional acceptance.

Liquidated Damages Settlement Statement:

Submit a final liquidated damages settlement statement, acceptable to Owner, if applicable.

Additional Information:

Submit any additional information and all corrections to record drawings, operating and maintenance manuals, product data and other record information requested by the Architect.

Evidence of Continuing Insurance Coverage:

Submit evidence of final, continuing insurance coverage complying with insurance requirements.

Termination of Temporary Facilities:

Remove temporary facilities, services, surplus materials, rubbish and similar elements.

Final Cleaning:

Complete final cleaning up requirements, including clean up and touch up of work done after substantial completion. Include both building and site.

Consent of Surety:

Submit consent of surety to release of retainage and final payment.

Final Inspection Procedure: Upon receipt of the Contractor's written request for final inspection, the Architect/Engineer will, within a reasonable time, either schedule a date with the Owner's Representatives and the Architect and his consultants to proceed with inspection, or advise the Contractor of unfulfilled prerequisites.

Upon completion of the inspection, the Architect/Engineer will either prepare a certificate of final acceptance, or will, if he finds the Work to be defective or incomplete, advise the Contractor in writing of work that is incomplete or of obligations that have not been fulfilled, but are required for final acceptance.

The Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification that the Work is complete. The inspection procedure will be repeated; however, should more than one reinspection be necessary, such additional reinspection services of the Architect shall be paid by the Owner at the Architect's current rate charges and deducted from the final payment due the Contractor.

When the Architect finds the Work has been completed, and after all items above have been satisfactorily completed and submitted to the Architect, he will prepare a certificate of final acceptance.

RECORD DOCUMENT SUBMITTALS:

General: Specific requirements for record documents are indicated in the individual sections of these specifications. Other requirements are indicated in the General Conditions. General submittal requirements are indicated in the various "submittals" sections.

Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect/Engineer's reference during normal working hours.

Record Drawings: Provide and maintain a set of reproducible contract drawings and a blue-line or black-line set of shop drawings in clean, undamaged condition, with mark-up of actual installations which vary substantially from the work as originally shown. Mark whichever drawing is most capable of showing "field" condition fully and accurately; however, where shop drawings are used for mark -up, record a cross-reference at corresponding location on working drawings. Mark with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work. Mark-up new information which is recognized to be of importance to Owner, but was for some reason not shown on either contract drawings or shop drawings. Where brand names, manufacturers, model numbers, or types vary from information provided on the drawings, modify record drawings to indicate in place products and items. Provide supplier's names and phone numbers where possible. Give particular attention to concealed work, which would be difficult to measure and record at a later date. Note related change-order numbers where applicable. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on cover of each set.

Record Product Data: Maintain one copy of each product data submittal. Mark these documents to show significant variations in the actual Work performed in comparison with the submitted information. Include both variations in the products as delivered to the site, and variations from the manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned at a later date by direct observation. Note related change orders and mark-up of record drawings and specifications.

Upon completion of mark-up, submit complete set of record product data to the Architect/Engineer for the Owner's records.

Miscellaneous Record Submittals: Refer to other sections of these specifications for requirements of miscellaneous record-keeping and submittals in connection with the actual performance of the Work. Immediately prior to date or dates of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Architect/Engineer for the Owner's records.

Maintenance Manuals: Organize operating and maintenance data into suitable sets of manageable size. Bind data into individual binders properly identified and indexed. Bind each set of data in a heavy-duty 2-inch, 3 -ring vinyl-covered binder, with pocket folders for folded sheet information. Mark the appropriate identification on both front and spine of each binder. Maintenance manuals are to include duration and all other information pertaining to the warranties.

Include the following types of information in operation and maintenance manuals.

- Emergency instructions.
- Spare parts listing.
- Copies of warranties.
- Wiring diagrams.

Recommended "turn-around" cycles.
Inspection procedures.
Shop drawings and product data.
Name and Phone Number of Material Suppliers and Installers

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

CLOSEOUT PROCEDURES:

General Operating And Maintenance Instructions: Arrange for each installer of operating equipment and other work that requires regular or continuing maintenance, to meet at the site with the Owner's personnel to provide necessary basic instruction in the proper operation and maintenance of the entire Work. Where installers are not experienced in the required procedures, include instruction by the manufacturer's representatives.

As part of this instruction provide a detailed review of the following items:

- Maintenance manuals
- Record documents
- Spare parts and materials
- Tools
- Hazards
- Cleaning
- Warranties, bonds, maintenance agreements and similar continuing commitments.

As part of this instruction for operating equipment demonstrate the following procedures:

- Start-up
- Shut-down
- Emergency operations
- Safety procedures
- Economy and efficiency adjustments
- Effective energy utilization

Prior to final application for payment, perform all instructional requirements with Owner's authorized personnel. Submit written documentation, signed by the personnel receiving instruction, showing the item/product for which instruction was given, the general scope of the information provided, receipt by the Owner's representative of instruction, maintenance, and procedural manuals and literature and copies of any warranties/guarantees for the product/item. Provide Owner's representatives name, title, and signature for all items specified to receive instruction in the detailed specifications Section 2-16 and including the following:

- Interior building lighting
- Emergency light and power systems

FINAL CLEANING

Special cleaning requirements for specific units of Work are included in the appropriate sections of this specification. General cleaning during the regular progress of the Work is required by the General Conditions.

REQUIREMENTS OF REGULATORY AGENCIES:

Comply with safety standards, local ordinances, anti-pollution laws and governing regulations for cleaning operations. Do not burn waste materials at the site. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile fluid wastes (such as mineral spirits, oil, paint, or paint thinners) or other harmful or dangerous materials into drainage systems or into streams or waterways. Remove waste materials from the site and dispose of in a lawful manner.

Store volatile waste in covered metal containers, and remove from premises daily.

Where extra materials of value remaining after completion of associated work have become the Owner's property, dispose of these materials to the Owner's best advantage as directed.

CLEANING MATERIALS:

Use only cleaning materials recommended by manufacturer of surface to be cleaned. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

CLEANING DURING CONSTRUCTION:

Oversee cleaning and ensure that building and grounds are maintained free from accumulations of waste materials and rubbish.

At reasonable intervals during progress of work, clean up site and access and dispose of waste materials, rubbish and debris.

Provide dumpster containers and locate on site for collection of waste materials, rubbish, and debris. Contract with local trash removal agency for periodic removal of collected waste.

Do not allow waste materials, rubbish, and debris to accumulate and become an unsightly or hazardous condition.

Broom clean interior building areas when ready to receive finish painting and continue broom and vacuum cleaning on an as needed basis to maintain dust-free conditions until building is ready for acceptance or occupancy.

Lower waste materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.

FINAL CLEANING:

At completion of construction and just prior to acceptance and occupancy, conduct an inspection of exposed interior and exterior surfaces. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of work to the condition expected from a normal, commercial building cleaning and maintenance program. Comply with the manufacturer's instructions for operations. Complete the following cleaning operations before requesting the Architect/Engineer's inspection for certification of substantial completion.

Remove labels which are not required as permanent labels.

Clean transparent materials, including glass in doors and windows, to a polished condition. Remove putty and other substances which are noticeable as vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.

Clean exposed hard-surfaced finishes to a dust-free condition, free of dust, stains, films and similar noticeable distracting substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.

Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from interior and exterior surfaces.

Repair, patch, and touch-up marred surfaces to match adjacent surfaces.

Wipe surfaces of mechanical and electrical equipment clean. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

At completion of each Phase of construction, and just prior to acceptance or occupancy, replace mechanical unit filters if units were operated during construction. Clean ducts, blowers, coils and all operating parts of mechanical units if units were operated without filters during construction.

Clean the project site, including landscape development areas, of rubbish, litter and other foreign substances caused by work of this contract.

Maintain cleaning until the Project, or portion thereof, is occupied by the Owner.

Pest Control: Engage an experienced exterminator to make a final inspection of the project, and to rid the project of rodents, insects and other pests.

Removal of Protection: Except as otherwise indicated or requested by the Architect/Engineer, remove temporary protection devices and facilities which were installed during course of the work to protect previously completed work during the remainder of the construction period.

SECTION 02 41 19 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to this section.

DESCRIPTION OF WORK:

Extent of selective demolition work is generally shown on drawings, but includes all work necessary or required to successfully install the work of the contract whether indicated or not.

Types of Selective Demolition Work: Demolition requires the selective removal and subsequent offsite disposal of the following:

- Portions of building structure or components indicated on drawings and/or as required to accommodate new construction.
- Removal of interior partitions as indicated or required.
- Removal of doors and frames indicated or required.
- Removal of ceilings indicated or required.
- Removal of floors and base indicated or required.
- Removal and protection of existing fixtures and equipment items to be relocated by the owner.

Related work specified elsewhere:

Remodeling construction work and patching is included within the respective sections of specifications, including removal of materials for re-use and incorporated into remodeling or new construction.

Relocation of pipes, conduits, ducts, other mechanical and electrical work are specified by respective trades.

SUBMITTALS:

Schedule: Submit schedule indicating proposed methods and operations for selective demolition work to Owner's Representative for review prior to commencement of work. Include coordination for shut-off, capping and continuation of utility services as required, together with details for dust and noise control protection.

Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.

Coordinate with owner's continuing occupation of portions of existing building, with Owner's partial occupancy of completed new addition, and with owner's reduced usage during summer months.

JOB CONDITIONS:

Occupancy: Owner will be continuously occupying areas of the building immediately adjacent to areas of selective demolition. Conduct selective demolition work in manner that will minimize need for disruption of Owner's normal operations. Provide minimum of 72 hours advanced notice to owner of demolition activities which will severely impact Owner's normal operations.

Condition of Structures: The Owner assumes no responsibility for actual condition of portions of the structures to be demolished.

Conditions existing at time of commencement of contract will be maintained by Owner in so far as practicable. However, variations within structure may occur by Owner's standard operations prior to start of selective demolition work.

Partial Demolition and Removal: Items indicated to be removed but of salvable value to Contractor may be removed from structure as work progresses. Transport salvaged items from site as they are removed.

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

Protections: Provide temporary barricades, fencing, and other forms of protection as required to protect Owner's personnel and general public from injury due to selective demolition work.

Provide protective measures as required to provide free and safe passage of Owner's personnel and general public to and from occupied portions of building.

Erect temporary covered passageways as required by authorities having jurisdiction.

Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.

Protect existing surfaces with suitable coverings when necessary.

Construct temporary insulated solid dustproof partitions where required to separate areas where noisy or extensive dirt or dust operations are performed. Equip partitions with dustproof doors and security locks if required.

Remove protections at completion of work.

Hazards: In the event the Contractor encounters on the site material reasonably believed to be asbestos or polychlorinated biphenyl (PCB) which has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the owner in writing. The Work in the affected area shall not thereafter be resumed except by written agreement of the owner and Contractor if in fact the material is asbestos or polychlorinated biphenyl (PCB) and has not been rendered harmless. The Work in the affected area shall be resumed in the absence of asbestos or polychlorinated biphenyl (PCB), or when it has been rendered harmless, by written agreement of the owner and Contractor, or in accordance with final determination by the owner.

The Contractor shall not be required to perform without consent any Work relating to asbestos or polychlorinated biphenyl (PCB).

Damages: Promptly repair damages caused to adjacent facilities by demolition operations at no cost to Owner.

Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.

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

Explosives: Use of explosives will not be permitted.

Utility Services: Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations.

Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction.

Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.

Environmental Controls: Use temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.

Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION:

INSPECTION:

Prior to commencement of selective structure demolition work, inspect areas in which work will be performed. Photograph existing conditions to structure surfaces, equipment or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with owner's Representative prior to starting work.

PREPARATION:

Cease operations and notify the owner's representative immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.

Cover and protect furniture, equipment and fixtures to remain from soiling or damage when demolition work is performed in rooms or areas from which such items have not been removed.

Erect and maintain dust-proof partitions and closures as required to prevent spread of dust or fumes to occupied portions of the building.

Where selective structure demolition occurs immediately adjacent to occupied portions of the building, construct dust-proof partitions of minimum 4' x 8' x ½" plywood framed on all four edges with 2" x 4" framing. Bolt together to completely separate occupied areas. Brace off to structure above. Close in from top of plywood wall to deck with 6 mil plastic to provide enclosed envelop.

Locate, identify, stub off and disconnect utility services that are not indicated to remain.

Provide by-pass connections as necessary to maintain continuity of service to occupied areas of building. Provide minimum of 72 hours advance notice to Owner if shut-down of service is necessary.

DEMOLITION:

Perform selective structure demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.

Promptly remove debris as work proceeds.

Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.

If unanticipated mechanical, electrical or structural elements which conflict with intended function or design as encountered, investigate and measure both nature and extent of the conflict. Submit report to Owner's Representative in written, accurate detail. Pending receipt of directive from Owner's Representative rearrange selective demolition schedule as necessary to continue overall job progress without delay.

SALVAGE MATERIALS:

Salvage Items: The Owner generally intends to take possession of any items removed from the building that "work" or have value or can be reused by the Owner or that can be sold to retrieve salvage value. Therefore, the Owner reserves the "first right of refusal" on all items removed from the facility or the grounds. The items the Owner may choose to retain include, but are not necessarily limited to, the following:

- Light fixtures
- Door and hardware
- Wall mounted pictures, posters, marker or tack boards, clocks, or other wall mounted accessories
- Any other items selected by the Owner

Removed items that are to be reused in the new Work or to be turned over to the Owner shall be carefully removed, cleaned, and securely and safely stored and protected from damage. When the Owner is ready to receive salvaged items, turn them over to Owner and obtain receipt.

The Contractor shall give notice to the Owner that the items are to be removed. Any items the Owner does not want to take possession of shall become the property of the Contractor.

Removed materials not reused in the Work or retained by the Owner shall become the property of the Contractor and shall be removed from the site and premises and disposed of by the Contractor in a legal manner.

DISPOSAL OF DEMOLISHED MATERIALS:

General: Remove debris, rubbish, and other materials resulting from demolition operations from building site.

Burning of removed materials from demolished structures will not be permitted on site.

Removal:

Transport materials removed from demolished structures and dispose of off site at an approved site or County Landfill.

CLEAN-UP AND REPAIR:

Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protections and leave interior areas broom clean.

Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to this section.

SUMMARY

Types of work in this section include rough carpentry for wood grounds, nailers furring, and blocking.

RELATED WORK:

Architectural Woodwork is specified in another section within Division 6.

DEFINITIONS:

Rough carpentry includes carpentry work not specified as part of other sections and which is generally not exposed, except as otherwise indicated.

PRODUCT HANDLING:

Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.

PROJECT CONDITIONS:

Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow attachment of other work.

MEASUREMENTS:

Verify all dimensions shown on drawings by taking field measurements; proper fit and attachment of all parts is required. Before starting work, check all lines and levels indicated and such other work as has been completed. Should there be any discrepancies, immediately report in writing to Architect. In the event of failure to do so, be responsible for correction of any errors.

PART 2 - PRODUCTS

LUMBER, GENERAL:

Lumber Standards: Manufacture lumber to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.

Inspection Agencies: Inspection agencies and the abbreviations used to reference with lumber grades and species include the following:

NLGA - National Lumber Grades Authority (Canadian).
SPIB - Southern Pine Inspection Bureau.
WCLIB - West Coast Lumber Inspection Bureau.
WWPA - Western Wood Products Association.

Grade Stamps: Factory-mark each piece of lumber with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.

Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.

Provide dressed lumber, S4S, unless otherwise indicated.

Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2" or less in nominal thickness, unless otherwise indicated.

DIMENSION LUMBER:

For all lumber provide the following grade and species:

Standard grade (provide one of the following):
#2 Southern Pine graded under SPIB rules
Spruce-Pine-Fir graded under NLGA rules

MISCELLANEOUS LUMBER:

Provide wood for support or attachment of other work including bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping and similar members. Provide lumber of sizes indicated, worked into shapes shown, and as follows:

Moisture content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.

Grade: Standard Grade light framing size lumber of any species or board size lumber as required. No. 2 Common or Standard grade boards per WCLIB or WWPA rules or No. 2 boards per SPIB rules.

MISCELLANEOUS MATERIALS:

Fasteners and Anchorages: Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.

PART 3 - EXECUTION

INSTALLATION, GENERAL:

Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.

Set carpentry work to required levels and lines, with members plumb and true to line and cut and fitted.

Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards.

Countersink nail heads on exposed carpentry work and fill holes.

Use common wire nails for wood to wood connections and screws for wood to metal connections, except as otherwise indicated. Use finishing nails for finish work. 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.

WOOD GROUNDS, NAILERS, BLOCKING AND SLEEPERS:

Provide wherever shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.

Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.

Provide wood blocking in walls at locations to receive wood base, chair rail, crown moldings or other standing or running trim.

WOOD FURRING:

Install plumb and level with closure strips at edges and openings. Shim with wood as required for tolerance of finished work.

Furring: Unless otherwise indicated, provide 1" x 2" furring at 2' o.c., horizontally and vertically. Select furring for freedom from knots capable of producing bent-over nails and resulting damage to covering.

CONNECTIONS:

Nailers: Bright common wire nails, galvanized or aluminum for exterior work and galvanized for connections in decay or fire treated wood. Sub-drill where necessary to avoid splitting.

Lag Screws and Screws: Subdrill, use square plate or malleable iron washer under lag screw heads when they bear on wood.

SECTION 06 40 00 - ARCHITECTURAL WOODWORK

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to this section.

DESCRIPTION OF WORK:

Extent of each type of architectural woodwork is indicated on drawings and in schedules.

Types of architectural woodwork include the following:

- Laminate clad cabinets.
- Laminated clad tops.
- Grommets.

RELATED WORK:

Rough carpentry is specified in another Division 6 section.

Wood doors are specified within Division 8.

Blocking in walls is specified in Division 6.

Metal support plates for cantilevered tops are indicated on the drawings.

QUALITY ASSURANCE:

AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute (AWI), except as otherwise indicated.

Installer Qualifications: Arrange for installation of architectural woodwork by a firm which can demonstrate successful experience in installing architectural woodwork items similar in type and quality to those required for this project.

Installer Qualifications: Arrange for installation of architectural woodwork items by same firm which fabricated them.

SUBMITTALS:

Product Data: Submit manufacturer's product data for each product and process specified as work of this section and incorporated into items of architectural woodwork during fabrication, finishing, and installation.

Quality Certification: Submit woodwork Manufacturer's (Fabricator's) certification, stating that fabricated woodwork complies with quality grades and other requirements indicated.

Shop Drawings: Submit shop drawings showing location of each item, dimensioned plans and elevations, large scale details, attachment devices and other components, completely detailing joinery and other construction including anchorage, and displaying the "Certificate of Compliance" of the Woodwork Institute for the grades specified.

Samples: Submit the following samples:

- Plastic laminate, color chip for each type, color, pattern and surface finish.

Plastic laminate, 8" x 10" for each type, color, pattern and surface finish, requested by the Architect.

When required by Architect, exposed cabinet hardware, one unit of each type and finish.
Manufacturer's recommended installation procedure.

DELIVERY, STORAGE AND HANDLING:

Protect woodwork during transit, delivery, storage and handling to prevent damage, soiling and deterioration.

Do not deliver woodwork, until painting, wet work, grinding and similar operations which could damage, soil or deteriorate woodwork have been completed in installation areas. If, due to unforeseen circumstances, woodwork must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

PROJECT CONDITIONS:

Conditioning: Woodwork Manufacturer and installer shall advise Contractor of temperature and humidity requirements for woodwork installation and storage areas. Do not install woodwork until required temperature and relative humidity have been stabilized and will be maintained in installation areas.

Maintain temperature and humidity in installation area as required to maintain moisture content of installed woodwork within a 1.0 percent tolerance of optimum moisture content, from date of installation through remainder of construction period. Require Woodwork Manufacturer to establish optimum moisture content and required temperature and humidity conditions.

PRODUCTS 2 - PRODUCTS

MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering high pressure decorative laminates which may be incorporated in the work include, but are not limited to, the following:

Formica Corp.
Pionite.
Wilsonart LLC
Nevamar Decorative Surfaces.

Available Manufacturers: Subject to compliance with requirements, manufacturers offering cabinet hardware and accessory materials which may be incorporated in the work include; but are not limited to, the following:

Concealed Hinges:

Blum, Inc., Stanley, North Carolina
Grass America, Inc., Kernersville, North Carolina
Hafele America, High Point, North Carolina
Hettich America, Charlotte, North Carolina
Mepla Inc., High Point, North Carolina

Drawer and Door Slides:

Grant Hardware Co., New York, New York
Hafele America, High Point, North Carolina
Hettich America, Charlotte, North Carolina
Knappe & Vogt Mfg. Co., Grand Rapids, Michigan

Cabinet Pulls:

Epco Engineered Products Co., Flint, Michigan
Hafele America, High Point, North Carolina
Mepla Inc., High Point, North Carolina
Stanley Hardware, New Britain, Connecticut

Magnetic Catches:

Knape & Vogt Mfg. Co., Grand Rapids, Michigan
Stanley Hardware, New Britain, Connecticut

FABRICATION, GENERAL:

Fabricate cabinets of plywood and solid wood components throughout in thickness indicated on the drawings. In lieu of plywood, at all locations other than bases and counter tops, high performance particle board core may be used. Standard grade particle board shall not be used. Hardboard may be used for drawer bottoms and elsewhere specifically noted on the drawings.

High Performance Medium Density Particle Board Core: Particle board shall type M-2, 47 lb. minimum density, and balanced construction with moisture content not to exceed 8%. All particle boards shall meet or exceed the requirements for its type and classification under ANSI 208.1-98, and ASTM-D-1037.

Hardboard: Hardboard shall meet or exceed Commercial Standards, CS-125 and Federal Specification LL-B-00810. Tempered Hardboard 1/4" thick - smooth both sides.

Wood Moisture Content: Comply with requirements of referenced quality standard for moisture content of lumber at time of fabrication and for relative humidity conditions in the installation areas.

Fabricate woodwork to dimensions, profiles, and details indicated with openings and mortises precut, where possible, to receive hardware and other items and work.

Complete fabrication, assembly, finishing, hardware application, and other work before shipment to project site to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

Pre-Cut Openings: Fabricate architectural woodwork with pre-cut openings, where possible, to receive hardware, appliances, plumbing fixtures, electrical work and similar items. Locate openings accurately and use templates or roughing-in diagrams for proper size and shape. Smooth edges of cutoffs and, where located in countertops and similar exposures seal edges of cutouts with a water-resistant coating.

Measurement: Before proceeding with fabrication of woodwork required to be fitted to other construction, obtain field measurements and verify dimensions and shop drawing details as required for accurate fit.

GENERAL CABINET REQUIREMENTS

All cabinet backs shall be 3/8" thick plywood and shall be inset 3/4" from rear and completely housed and captured in bottom, sides and sub-top of cabinets and sealed to cabinet with continuous hot melt glue and rear stiffeners screwed and glued. Stapled backs shall not be accepted.

Cabinet sides may not extend to floor. Base cabinets shall be furnished with separate, continuous base of 3/4" water resistant plywood.

All edge of doors and drawer fronts shall be laminated plastic matching fronts.

All cabinets to be fastened to the wall through a 1" thick installation rail on back of cabinet.

All cabinets must have a minimum 3/4" thick core before laminate. Finished thickness shall be not less than 13/16".

Tops and bottoms of all wall cabinets shall be 1" thick, unless noted otherwise.

Door/Drawer Spreaders: Provide minimum 3/4" x full width cabinet body spreaders immediately behind all door/drawer and multiple drawer horizontal joints to maintain exact body dimensions and close off reveal.

Fabricate all tops of plywood. Particle board shall not be acceptable.

Countertop end splashes shall be installed at all conditions where cabinet abuts wall.

DETAILED CABINET REQUIREMENTS

Sub-Base:

Cabinet Sub-base shall be separate and continuous (no cabinet body sides-to-floor), waterproof plywood with concealed fastening to cabinet bottom. Provide ladder-type construction, of front, back and intermediates, to form a secure and level platform to which cabinets attach.

Cabinet Base Top:

Provide solid sub-top for all lower base cabinets.

Cabinet Ends:

Provide adjustable tracks or holes drilled for adjustable shelves 1 inches + - on center.

Fixed and Adjustable Shelves:

Thickness: Provide 3/4 inch standard shelving less than 36 inches wide. Provide one inch shelving for units 36 inches wide and less than 48 inches.

Cabinet Backs:

Standard cabinet back shall be 3/8 inch thick. Rear, unexposed, side of back shall receive continuous hot melt glue at joint between back and sides/top/bottom for sealing against moisture and vermin, and further contribute to case rigidity.

Drawers:

Drawers at all units shall be no more than 3" less than the total depth of the cabinet in which they are located. Drawers less than full depth shall be acceptable only where specifically indicated on the drawings.

Drawer fronts shall be applied to separate drawer body component sub-front.

Sides and back of drawers shall be 1/2 inch minimum solid wood; sub-front same, except 5/8 inch thick.

Drawer sides to be dadoed to receive front and back, machine squared and held under pressure while glued and pinned together.

Drawer bottom shall be ¼ inch thick, housed and glued into front sides and back. Underside of drawer to receive continuous hot melt glue at joint between bottom and back/sides/front for sealing and rigidity. Reinforce drawer bottoms as required with intermediated spreaders.

Horizontal Dividers: Laminated particle board ¾ inch thickness. Secured in cabinet with clips. At exposed dividers, provide laminated plastic finish to match faces.

ARCHITECTURAL CABINETS, LAMINATE CLAD:

Quality Standard: Comply with AWI Section 400 and its Division 400B.

Laminate Clad Cabinets: Comply with the following requirements:

Grade: Premium.

Type of Cabinet Construction: As indicated.

Where with the available size of manufactured laminate products sizes, provide continuous, full size pieces of laminate without seams wherever possible. Provide minimum joints and seams possible. Install laminate after fabrication of component pieces so that all finished surfaces are provided without seams in laminate to the greatest extent possible.

Laminate Cladding: High pressure decorative laminate complying with NEMA LD 3 and as follows:

Colors, Patterns, and Finishes: As selected by Architect from laminate manufacturer's standard products in all available colors and patterns. Units shall typically be of one color in a given section of cabinetry, however, architect shall have the option of selecting as many colors for different conditions as required.

Laminate Grade for Exposed Surfaces: Provide laminate cladding complying with the following requirements for type of surface and grade.

Horizontal Surfaces Other Than Tops: HGS (0.048" nominal thickness). Include this grade on all open shelving (top and bottom) and the underside/bottom of wall cabinets and wall open shelving units.

Postformed Surfaces: HGP (0.038" nominal thickness).

Vertical Surfaces: VGS (0.028" nominal thickness).

Semi-Exposed Surfaces: High pressure laminate balancing sheet shall be used for the back of all doors and drawer faces. Woodwork manufacturer shall have the option of using polyester, melamine, or CLS, .020" cabinet liner for all other semi-exposed surfaces.

For the work of this contract, all faces, fronts, backs and ends of all shelving which is indicated as adjustable shelving, and is not inside a base or wall unit, shall be considered an exposed part.

CABINET HARDWARE AND ACCESSORY MATERIALS:

General: Provide cabinet hardware and accessory materials associated with architectural cabinets.

Hardware Standard: Comply with BHMA A156.9 for items indicated by referencing BHMA numbers or items referenced to this standard.

Cabinet Hardware: Provide exposed hardware with satin finish and as indicated below.

Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.

For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.

Concealed Hinges:

Provide hinges capable of 3 dimensional adjustment including side, depth, and height.

Provide steel or nylon hinge boss.

Provide nickel plated steel hinge arm.

Provide 160, minimum opening angle.

Provide type as required for specific application.

Provide 3 hinges for any doors over 3'-0" tall.

Drawer Slides:

Provide side mounted drawer slides rated for a minimum of 100 pounds load with full depth extension in normal use, except where otherwise noted. Provide with telescoping full extension on rolling steel balls and nylon rollers, positive stop, and finger tip release. Provide slides not less than 3" less than total cabinet depth on units noted as paper drawers or any multiple drawer units over 24" deep. Slides shall have adjuster to regulate body slide sway.

File Drawers and Desk Drawers: K&V No. 1229, full extension, or approved equal.

At Drawer units 30" wide or larger, provide 150 pound minimum load capacity slides equal to K&V No. 1485.

File drawer followers: Knappe & Vogt No. 476 follower and track assemble, or approved equal.

Cabinet Pulls:

Provide "U" shaped pulls 3-1/2" wide with 1-5/16" lugs, and 5/16" diameter with concealed screws into each leg.

Provide aluminum pulls with US26D satin finish, anodized, with screws.

Magnetic Catches:

Provide self-aligning magnetic catches with bright aluminum finish with pull strength of 5 pounds \pm per catch.

Provide double magnetic catch for pair of cabinet doors as required.

Provide complete with screws.

Locks:

At all cabinet doors and drawers, provide standard pin-type or disc-type (5 pins or discs) tumbler locks, keyed individually except as otherwise indicated.

Grommets:

Provide round, metal or plastic cable grommets consisting of two pieces, with break away tab cover cap for press fitting or gluing into counter top. Provide here indicated in countertops and elsewhere, the full thickness of the surface they penetrate. Provide in color selected by the architect from manufacturer's available colors. Provide size indicated, or if not indicated, 3" diameter.

ARCHITECTURAL CABINET TOPS:

Quality Standard: Comply with AWI Section 400 and its Division 400C. Provide plywood tops; particle board shall not be acceptable.

Where with the available size of manufactured products, provide continuous, full size pieces of laminate without seams where ever possible. Provide minimum joints and seams possible.

Type of Top: High Pressure Decorative Laminate:

Grade: Custom.

Laminate Cladding for Horizontal Surface: High pressure decorative laminate, scuff and abrasive resistant with .0001 mm minimum deposit of aluminum oxide particles, complying with NEMA LD 3, FS LP 508H, and as follows:

Colors, Patterns, and Finishes: As indicated or, if not otherwise indicated, as selected from laminate manufacturer's standard products in the following categories:

All available colors and patterns.

Grade: HGS (0.048" nominal thickness).

Edge Treatment: Same as laminate cladding on horizontal surfaces.

Edge Shape: Provide square front edge except where post formed or special shape is indicated.

FASTENERS AND ANCHORS:

Screws: Select material, types, size and finish required for each use. Comply with FS FF-S-111 for applicable requirements.

For metal framing supports, provide screws as recommended by metal framing manufacturer.

Nails: Select material, type, size and finish required for each use. Comply with FS FF-N-105 for applicable requirements.

Anchors: Select material, type, size and finish required by each substrate for secure anchorage. Provide non-ferrous metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion-resistance. Provide toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts and anchors as required, to be set into concrete or masonry work for subsequent woodwork anchorage.

PART 3 - EXECUTION

WORKMANSHIP

Cabinet parts shall be accurately machined and bored for premium quality grade joinery construction utilizing automatic machinery to insure consistent sizing of modular components.

End panels shall be doweled to receive bottom and top. Back shall be fully housed into cabinet sides, top and bottom to insure rigidity and a fully closed cabinet.

Drawer bottom shall be fully housed into sides, back and subfront. Sides of drawer to be fully dadoed to receive drawer back, locked in fully to sub-front, fastened with glue and mechanical fasteners.

¾ inch thick hang rails shall be applied to back side of all wall, base and tall cabinets for extra rigidity and to facilitate installation. Rails, cabinet backs, drawer bottoms shall be additionally secured by a continuous bead of hot melt glue.

All cases shall be square, plumb and true.

Condition woodwork to average prevailing humidity conditions in installation areas prior to installing.

Pre-Installation Meeting: Meet at project site prior to delivery of architectural woodwork and review coordination and environment controls required for proper installation and ambient conditioning in areas to receive work. Include in meeting the Contractor; Architect and other Owner Representatives (if any); Installers of architectural woodwork, wet work such as plastering, other finishes, painting, mechanical work and electrical work; and firms or persons responsible for continued operation (whether temporary or permanent) of HVAC system as required to maintain temperature and humidity conditions. Proceed with woodwork installation only when everyone concerned agrees that required ambient conditions can be maintained.

Deliver concrete inserts and similar anchoring devices to be built into substrates, well in advance of time substrates are to be built.

Prior to installation of architectural woodwork, examine shop fabricated work for completion, and complete work as required, including back priming and removal of packing.

INSTALLATION

Install woodwork plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8' -0" for plumb and level (including tops); and with no variations in flushness of adjoining surfaces.

Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.

Anchor woodwork to anchors or blocking built-in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Except where prefinished matching fasteners heads are required, use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork, and matching final.

Cabinets: Install without distortion so that doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete the installation of hardware and accessory items as indicated.

Tops: Anchor securely to base units and other support systems as indicated.

Countertop end splashes shall be installed at all conditions where cabinet abuts wall.

After countertops and cabinets are properly attached to wall, all joints at tops and cabinets will be caulked with a color matched caulk.

Install cabinets where possible with concealed fasteners. Where exposed fasteners are required such as to attachment of open wall cabinets to wall, provide anchors with colored heads on.

Provide color coordinated snap-cap washers and caps for all exposed screw heads, equal to "Kappet" caps, manufactured by Pro-Dec Products, Inc., Houston, TX.

ADJUSTMENT, CLEANING, FINISHING, AND PROTECTION:

Repair damaged and defective woodwork where possible to eliminate defects functionally and visually; where not possible to repair replace woodwork. Adjust joinery for uniform appearance.

Clean, lubricate and adjust hardware.

Clean woodwork on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.

Provide final protection and maintain conditions, in a manner acceptable to Fabricator and Installer, which ensures architectural woodwork being without damage or deterioration at time of substantial completion.

SECTION 07 92 00 - JOINT SEALERS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to this section.

DESCRIPTION OF WORK:

Extent of each form and type of joint sealer is indicated on drawings.

The required applications include, but are not necessarily limited to the following:

Partition and ceiling joints.

Refer to Division-8 sections for glazing requirements; not work of this section.

SYSTEM PERFORMANCES:

Provide joint sealers that have been produced and installed to establish and maintain watertight and airtight continuous seals.

QUALITY ASSURANCE:

Installer Qualifications: Engage an Installer who has successfully completed within the last 3 years at least 3 joint sealer applications similar in type and size to that of this project and who will assign mechanics from these earlier applications to this project, of which one will serve as lead mechanic.

Single Source Responsibility for Joint Sealer Materials: Obtain joint sealer materials from a single manufacturer for each different product required.

Preconstruction Joint Sealer-Substrate Tests: Submit substrate materials representative of actual joint surfaces to be sealed to manufacturer of joint sealer products for laboratory testing of sealants for adhesion to primed and unprimed substrates and for compatibility with secondary seals, if required, as indicated below:

Use test methods standard with manufacturer to determine if priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealers to joint substrates under environmental conditions that will exist during actual installation.

Testing will not be required when joint sealer manufacturer is able to submit joint preparation data required above which is acceptable to Architect and is based on previous testing of current sealant products for adhesion to, and compatibility with, joint substrates matching those submitted.

SUBMITTALS:

Product Data: Submit manufacturer's technical data for each joint sealer product required, including instructions for joint preparation and joint sealer application.

Samples for Initial Selection Purposes: Submit manufacturer's standard bead samples consisting of strips of actual products showing full range of colors available, for each product exposed to view.

Samples for Verification Purposes: Submit samples of each type and color of joint sealer required. Install joint sealer samples in 1/2" wide joints formed between two 6" long strips of material matching the appearance of exposed surfaces adjacent to joint sealers in the work.

Test Reports: Submit the following test reports:

Preconstruction joint sealer-substrate test results including recommendations of joint sealer manufacturer for joint preparation and application of joint sealers applicable to project conditions.

Certified test reports for elastomeric sealants evidencing compliance with requirements specified based on comprehensive testing of current product formulations within a 24-month period preceding date of submission of test reports to Architect. Include test results for aged performances including hardness, stain resistance, adhesion and cohesion under cyclic movement, low-temperature flexibility, modulus of elasticity at 100% strain, effects of heat aging, and effects of accelerated weathering.

Certificates: Submit certificates from manufacturers of joint sealers attesting that their products comply with specification requirements and are suitable for the use indicated.

Special Product Guarantee: Submit 2 copies of written guarantee agreeing to repair or replace joint sealers which fail to perform as air-tight and water -tight joints; or fail in joint adhesion, cohesion, abrasion, resistance, weather resistance, or appear to deteriorate in any other manner not clearly specified by submitted manufacturer's data as an inherent quality of the material for the exposure indicated. Provide guarantee signed by the Installer and Contractor.

Guarantee period is 2 years from date of substantial completion.

DELIVERY, STORAGE, AND HANDLING:

Deliver materials to project site in original unopened containers or bundles with labels informing about manufacturer, product name and designation, color, expiration period for use, pot life, curing time and mixing instructions for multi-component materials.

Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

PROJECT CONDITIONS:

Environmental Conditions: Do not proceed with installation of joint sealers under the following conditions:

When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturers.

When joint substrates are wet due to rain, frost, condensation or other causes.

Joint Width Conditions: Do not proceed with installation of joint sealers when joint widths are less than allowed by joint sealer manufacturer for application indicated.

PART 2 - PRODUCTS

MATERIALS, GENERAL:

Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by testing and field experience.

Colors: Provide color of exposed joint sealers indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.

Hardness: As recommended by manufacturer for application shown, unless other -wise indicated.

Modulus of Elasticity: Provide the lowest available modulus of elasticity which is consistent with exposure to weathering, indentation, vandalism, abrasion, support of loading, and other requirements.

Size and Shape: As shown, or if not shown, as recommended by the manufacturer for the type and condition of joints, and for the indicated joint performance or movement.

Grade of Sealant: For each application, provide the grade of sealant (non -sag, self-leveling, no-tack, knife grade, preformed, etc.) as recommended by the manufacturer for the particular condition of installation (location, joint shape, ambient temperature, and similar conditions), to achieve the best possible overall performance. Grades specified herein are for normal condition of installation. Where exposed to foot traffic, select non-tracking materials of sufficient strength and hardness to withstand stiletto heel traffic without damage or deterioration of sealer system.

ELASTOMERIC JOINT SEALANTS:

Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated which complies with ASTM C 920 requirements, including those for Type, Grade, Class, and Uses.

SOLVENT-RELEASE-CURING JOINT SEALANTS:

Provide one of the following typically at interior areas.

Acrylic Sealant: Manufacturer's standard one-part, non-sag, solvent-release -curing, acrylic terpolymer sealant complying with ASTM C 920 for Type S; Grade NS; Uses NT, M, G, A and, as applicable to joint substrates indicated, O; except for selected test properties which are revised as follows:

Heat-aged hardness:	40-50
Weight loss:	15%
Max. cyclic movement capability (Class):	±12-1/2%

Butyl Sealant: Manufacturer's standard one part, non-sag, solvent- release -curing, polymerized butyl sealant complying with FS TT-S- 001657 for Type I and formulated with minimum of 75% solids to be nonstaining, paintable, and have a tack-free time of 24 hours or less.

Pigmented Small Joint Sealant: Manufacturer's standard, solvent- release -curing, pigmented, synthetic rubber sealant formulated for sealing joints 3/16" or smaller in width.

Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

Acrylic Sealant:

"Chem-Calk RFP"; Bostik Inc.
"PTI 738"; Protective Treatments Inc.
"606NF Weatherban", 3M Corp.

Butyl Sealant:

"Chem-Calk 300"; Bostik Inc.
"PTI 767"; Protective Treatments Inc.
"BC-158", Pecora Corp.
"Tremco Butyl Sealant"; Tremco Inc.

Pigmented Small Joint Sealant:

"PTI 200"; Protective Treatments, Inc.

SMOKE PARTITIONS

At smoke partitions that do not require a fire rating, provide sealant equal to TREMstop "Smoke and Sound".

MISCELLANEOUS MATERIALS:

Primer: Provide type recommended by joint sealer manufacturer where required for adhesion of sealant to joint substrates indicated.

Cleaners for Nonporous Surfaces: Provide non-staining, chemical cleaner of type acceptable to manufacturer of sealant and sealant backing materials which are not harmful to substrates and adjacent nonporous materials.

Masking Tape: Provide non-staining, non-absorbent type compatible with joint sealants and to surfaces adjacent to joints.

PART 3 - EXECUTION

INSPECTION:

Require Installer to inspect joints indicated to receive joint sealers for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealer performance. Obtain Installer's written report listing any conditions detrimental to performance of joint sealer work. Do not allow joint sealer work to proceed until unsatisfactory conditions have been corrected.

PREPARATION:

Surface Cleaning of Joints: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers and the following requirements:

Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; oil; grease; waterproofing; water repellants; water; surface dirt and frost.

Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile and other non-porous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.

Joint Priming: Prime joint substrates where indicated, where needed based on prior experience, or where recommended by joint sealer manufacturer. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.

Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

INSTALLATION OF JOINT SEALERS:

General: Comply with joint sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.

Latex Sealant Installation Standard: Comply with requirements of ASTM C 790 for use of latex sealants.

Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.

Tooling of Non-sag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

Concave joint configuration per Figure 6A in ASTM C 962, unless otherwise indicated.

PROTECTION AND CLEANING:

Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of substantial completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

SECTION 08 12 13 - HOLLOW METAL FRAMES

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

DESCRIPTION OF WORK:

Extent of hollow metal frames is indicated in schedules.

Finish hardware is specified elsewhere in Division 8.

QUALITY ASSURANCE:

Provide frames complying with Steel Door Institute "Recommended Specifications: Standard Steel Doors and Frames" (SDI-100) and as herein specified.

SUBMITTALS:

Product Data: Submit manufacturer's technical product data substantiating that products comply with requirements.

Shop Drawings: Submit for fabrication and installation of steel frames. Include details of each frame type, elevations of frame design types, conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.

Provide schedule of frames using same reference numbers for details and openings as those on contract drawings.

Indicate dimensions of glazing frames and stops with glass and glazing requirements.

DELIVERY, STORAGE AND HANDLING:

Deliver hollow metal work cartoned or crated to provide protection during transit and job storage.

Inspect hollow metal work upon delivery for damage. Minor damages may be repaired provided refinished items are equal in all respects to new work and acceptable to Architect; otherwise, remove and replace damaged items as directed.

Store frames at building site under cover. Place units on minimum 4" high wood blocking. Avoid use of non-vented plastic or canvas shelters which could create humidity chamber. Provide ¼" spaces between stacked frames to promote air circulation.

PART 2 - PRODUCTS

ACCEPTABLE MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering steel doors and frames which may be incorporated in the work include; but are not limited to, the following:

Frames, (General):

Allied Building Products Corp.
Ceco Door, ASSA ABLOY
Curries, ASSA ABLOY
DKS, Cal-Royal Products, Inc.
MPI Custom Steel Doors and Frames
Pioneer Industries, Division of Security Holdings, LLC
Steelcraft, Allegion PLC
Republic Door and Frames

MATERIALS:

Hot-Rolled Steel Sheets and Strip: Commercial quality carbon steel, pickled and oiled, complying with ASTM A 569 and ASTM A 568.

Cold-Rolled Steel Sheets: Commercial quality carbon steel, complying with ASTM A 366 and ASTM A 568.

Supports and Anchors: Fabricate of not less than 18-gage galvanized sheet steel.

Inserts, Bolts and Fasteners: Manufacturer's standard units, except hot -dip galvanize items to be built into exterior walls, complying with ASTM A 153, Class C or D as applicable.

Shop Applied Paint:

Primer: Rust-inhibitive enamel or paint, either air-drying or baking, suitable as a base for specified finish paints.

FABRICATION, GENERAL:

Fabricate frames, concealed stiffeners, reinforcement, edge channels, louvers and moldings from either cold-rolled or hot-rolled steel (at fabricator's option).

Exposed Fasteners: Unless otherwise indicated, provide countersunk flat Phillips heads for exposed screws and bolts.

Finish Hardware Preparation: Prepare frames to receive finish hardware in accordance with final Finish Hardware Schedule and templates provided by hardware supplier. Comply with applicable requirements of ANSI A115 series specifications for frame preparation for hardware.

Reinforce frames to receive surface-applied hardware. Drilling and tapping for surface-applied finish hardware may be done at project site.

Locate finish hardware as indicated on final shop drawings or, if not indicated, in accordance with "Recommended Locations for Builder's Hardware", published by Door and Hardware Institute.

Shop Painting:

Clean, treat, and paint exposed surfaces of frame units, including galvanized surfaces.

Clean steel surfaces of mill scale, rust, oil, grease, dirt, and other foreign materials before application of paint.

Apply shop coat of prime paint of even consistency to provide a uniformly finished surface ready to receive finish paint.

HOLLOW METAL FRAMES:

Provide metal frames for doors of types and styles as shown on drawings and schedules. Conceal fastenings, unless otherwise indicated. Fabricate frames of minimum 16-gage cold-rolled furniture steel.

Fabricate frames with mitered corners, welded construction for all exterior and interior CMU applications and knocked-down for field assembly at interior drywall applications.

Door Silencers: Except on weatherstripped frames, drill stops to receive 3 silencers on strike jambs of single-swing frames and 2 silencers on heads of double-swing frames.

Hardware Preparation: Prepare frames to receive hardware in accordance with final Door Hardware Schedule and templates provided by hardware supplier. Comply with applicable requirements of ANSI A115 Series Specifications for frame preparation for hardware.

Locate hardware in accordance with "Recommended Locations for Builder's Hardware on Standard Steel Doors and Frames," published by Door and Hardware Institute.

Shop Painting: Clean, treat, and paint exposed surfaces of steel units, including galvanized surfaces.

Apply shop coat of prime paint of even consistency to provide a uniform finished surface ready to receive finish paint.

Glazing Stops: Minimum 20 gauge steel. Provide non-removable stops on the outside face of exterior frames.

PART 3 - EXECUTION

INSTALLATION:

General: Install frames, and accessories in accordance with final shop drawings, manufacturer's data, and as herein specified.

Placing Frames: Comply with provisions of SDI-105 "Recommended Erection Instructions For Steel Frames", unless otherwise indicated.

Place frames prior to construction of enclosing walls and ceilings. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders leaving surfaces smooth and undamaged.

Coordination: Coordinate installation of metal frames with caulking and sealant work of Division 7 to assure that exterior frames are sealed as soon as possible after installation to prevent entry of moisture into the frame.

ADJUST AND CLEAN:

Prime Coat Touch-up: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.

Final Adjustments: Check and readjust operating finish hardware items, leaving steel doors and frames undamaged and in complete and proper operating condition.

SECTION 08 14 16 - FLUSH WOOD DOORS

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1-Specification sections, apply to this section.

SUMMARY:

Extent and location of each type of flush wood door is shown on drawings and in schedules. This Section includes the following:

Solid core flush wood doors with wood veneer faces.
Factory-prefitting to frames and factory-premachining for hardware.

Related Sections: The following Sections contain requirements that relate to this Section:

Metal frames are included in Division 8 Section "Hollow Metal Frames".
Glass and glazing are included in Division 8 Section "Glazing".
Finish of doors is included in Division 9 Section "Painting".

SUBMITTALS:

Product Data: Submit door manufacturer's product data for each type of wood door, including details of core and edge construction, trim for openings and louvers.

Shop Drawings: Submit shop drawings indicating location and size of each door, elevation of each kind of door, details of construction, location and extent of hardware blocking, fire ratings, and other pertinent data.

Indicate dimensions and locations of mortises and holes for hardware.
Indicate dimensions and locations of cutouts.
Indicate requirements for veneer matching.
Indicate doors to be factory finished and finish requirements.

Samples for Initial Selection: Color charts consisting of actual materials in small sections for the following:

Faces of Factory-Finished Doors: Show the full range of colors available for stained finishes.

Samples for Verification : Submit the following:

Wood Frames and Metal Clips for Light Openings: Submit 6" long sections of wood light frames for each material, type and finish required.

Doors for Transparent Finish: 3 by 4 inch sample of door faces with solid wood edging representing typical range of color and grain for each species of veneer and solid lumber required.

Corner Sections of Doors: When requested by the architect, approximately 8 by 10 inches (200 by 250 mm), with door faces and edgings representing typical range of color and grain for each species of veneer and solid lumber required.

QUALITY ASSURANCE:

Quality Standards: Comply with the following standards:

NWWDA Quality Standard: I.S.1-A "Architectural Wood Flush Doors", of National Wood Window and Door Association (NWWDA).

AWI Quality Standard: "Architectural Woodwork Quality Standards", including Section 1300 "Architectural Flush Doors" of Architectural Woodwork Institute (AWI) for grade of door, core construction, finish and other requirements exceeding those of NWWDA quality standard.

NWWDA Quality Marking: Mark each wood door with NWWDA Wood Flush Door Certification Hallmark certifying compliance with applicable requirements of NWWDA I.S. 1-A Series.

Manufacturer: Obtain doors from a single manufacturer.

DELIVERY, STORAGE, AND HANDLING:

Protect wood doors during transit, storage and handling to prevent damage, soiling and deterioration. Comply with requirements of referenced standards and recommendations of NWWDA pamphlet "How to Store, Handle, Finish, Install, and Maintain Wood Doors", as well as with manufacturer's instructions.

Package doors at factory prior to shipping using manufacturer's standard method.

Identify each door with individual opening numbers which correlate with designation system used on shop drawings for door, frames, and hardware, using temporary, removable or concealed markings.

COORDINATION:

Coordinate and acquire all necessary information from hardware and metal frame manufacturers in order that doors shall be properly prepared to receive hinges and hardware.

PROJECT CONDITIONS:

Conditioning: Do not deliver or install doors until conditions for temperature and relative humidity have been stabilized and will be maintained in storage and installation areas during remainder of construction period to comply with the following requirements applicable to project's geographical location:

Reference AWI quality standard including Section 100-S-3 "Moisture Content".

WARRANTY:

General: The warranty shall not deprive the Owner of other rights or remedies the Owner may have under other provisions of the Contract Documents, and is in addition to and runs concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

Special Warranty: Manufacturer's standard form, signed by manufacturer, Installer, and Contractor, in which manufacturer agrees to repair or replace doors that are defective in materials or workmanship, have warped (bow, cup, or twist) more than 1/4 inch (6.4 mm) in a 42-by-84-inch (1067-by-2134-mm) section, or show telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 75-mm) span.

Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.

Warranty shall be in effect during the following period of time from date of Substantial Completion:

Solid-Core Interior Doors: Life of installation.

Contractor shall be responsible for replacement or refinishing of doors where Contractor's work contributed to rejection or to voiding of manufacturer's warranty.

PART 2 - PRODUCTS

MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

Manufacturers of Solid Core Doors with Wood Veneer Faces:

Algoma Hardwoods Inc.
Eggers Industries, Architectural Door Division.
Marshfield Door Systems.

FLUSH WOOD DOORS:

Doors for Transparent Finish: Comply with the following requirements:

Veneer Premium Grade AA: Select White Birch, 1/50" minimum before field sanding.

Veneer Cut: Rotary

Veneer Match between Leaves: Bookmatched.

Assembly of Veneer Leaves on Doors: Balance Match.

Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.

Room Match: Provide door faces of compatible color and grain within each separate room or area of building.

AWI Grade: Premium, with Grade AA faces.

Construction: PC-5 (Particle board core).

Thickness: 1 3/4" unless otherwise noted.

GENERAL FABRICATION REQUIREMENTS:

Factory fit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels, unless otherwise indicated:

Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.

Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.

Cross Bands: Shall be 1/16" thick hardwood. Cross bands and faces shall be laminated to the core with Type I melamine fortified urea glue by the hot press process.

Stiles, Rails: Stiles shall be compatible with face veneers, with mill option hardwoods used. Stiles and rails must measure a minimum of 1-3/8" and glued securely to the core parts with no voids allowed.

SOLID-CORE DOORS:

Particleboard Cores: Comply with the following requirements:

Particleboard: ANSI A208.1, Grade LD-2.

Blocking: Provide wood blocking in particleboard-core doors as needed to eliminate through-bolting hardware.

Interior Veneer-Faced Doors:

Core: Particleboard

Construction: Five plies with stiles and rails bonded to core, then entire unit abrasive planed before veneering.

Construct using Architectural Woodwork Institute PC-5 construction.

Wood Beads for Light Openings in Wood Doors:

Wood Species: Same species as door faces.

Profile: Manufacturer's standard shape.

At 20-minute, fire-rated, wood-core doors, provide wood beads and metal glazing clips approved for such use.

PREFITTING AND PREPARATION FOR HARDWARE:

Prefit and premachine wood doors at factory.

Comply with tolerance requirements of AWI for prefitting. Machine doors for hardware requiring cutting of doors. Comply with final hardware schedules and door frame shop drawings and with hardware templates and other essential information required to ensure proper fit of doors and hardware.

Take accurate field measurements of hardware mortises in metal frames to verify dimensions and alignment before proceeding with machining in factory.

PART 3 - EXECUTION

EXAMINATION:

Examine door frames, after their, installation, and doors, prior to their hanging, for the following purposes:

Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with plumb jambs and level heads.

Verify that doors are free of defects that could cause their rejection.

Do not proceed with installation until unsatisfactory conditions have been corrected.

INSTALLATION:

Condition doors to average prevailing humidity in installation area prior to hanging.

Hardware: For installation see Division-8 "Door Hardware" section of these specifications.

Manufacturer's Instructions: Install wood doors to comply with manufacturer's instructions and of referenced AWI standard and as indicated.

Factory Fitted Doors: Fit to frames and machine for hardware to whatever extent not previously worked at factory as required for fit and uniform clearance at each edge.

Job-Fitted Doors: Where doors have not been prefitted at factory, align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal cut surfaces after fitting and machining.

Clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4 inch (6.4 mm) from bottom of door to top of threshold.

Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.

Field Finished Doors: See Division 9 Section "Painting" of these specifications for finishing requirements.

ADJUST AND CLEAN:

Operation: Rehang or replace doors which do not swing or operate freely.

Protect doors as recommended by door manufacturer to ensure that wood doors will be without damage or deterioration at time of substantial completion.

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1- Specification sections, apply to this section.

SUMMARY

Extent and location of each type of hardware is shown on drawings and in schedules. Hardware shall include construction keying and permanent keying and keys.

RELATED WORK

Drawer slides, cabinet door and drawer pulls and latches, adjustable shelf standards and brackets, and hardware for doors less than 1-3/8" thick are specified under Division 6.

Hollow metal frames are specified under Division 8.

Wood Doors are specified under Division 8.

SUBMITTALS

Product Literature: Submit manufacturer's standard product literature of each item of hardware, including cut sheets of submitted product. Provide reference numbers on cut sheets which correlate it to appropriate items included in schedules.

Schedules: Submit for Architect's approval complete schedules of the finish hardware listing all openings by architectural numbers; each item of hardware to be furnished for opening by the manufacturer's name and catalog number, and the finish for all items of hardware.

Include a separate keying schedule which is a result of a keying meeting held with the Owner's representative.

The contractor shall forward approved schedules and templates and hardware samples, as required, to the door and frame manufacturers.

Upon request by the Architect, the contractor shall submit for inspection and approval, samples of each item of hardware specified herein.

QUALITY ASSURANCE

Standards: Comply with the requirements of the Americans with Disabilities Act regarding requirements relating to hardware standards which promotes use by those with physical disabilities.

METAL DOORS AND FRAMES

The Contractor shall carefully examine the drawings and other sections of the specifications for metal frames and metal doors. For all such frames and/or doors, hardware shall be template hardware.

DELIVERY AND HANDLING:

Stockpile all hardware items sufficiently in advance to guarantee availability and make all deliveries to ensure orderly progress of the entire work.

Individually package each unit of finish hardware complete with fasteners and accessories, clearly marked on the outside to indicate contents, hardware schedule identification and location in the work.

Use any means necessary to protect materials of this section before, during and after delivery to job site, and to protect the work and materials of all other trades.

In the event of damage, immediately make all repairs and replacements necessary to approval of architect and at no additional cost to owner.

MAINTENANCE

Maintenance Tools and Instructions: furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

WARRANTY

Warranty: Submit a written warranty, executed by the manufacturer, agreeing to repair or replace components that fail in material or workmanship within the specified period. Failure includes, but is not limited to faulty operation, failure of component parts, and deterioration of metals, metal finishes, and other materials beyond normal wear.

Warranty Period: 10 years after the date of Substantial Completion for door closers; all other hardware, 2 years.

PART 2 - PRODUCTS

MANUFACTURER

The selections listed are intended to indicate the standard of quality and the type of hardware required. The catalog numbers listed in these specifications are from the catalog of the first named manufacturer; equivalent items of the other named manufacturers will be acceptable, subject to Architect's approval. No substitutions will be permitted where only one manufacturer is named. All products shall be ANSI Grade #1 as approved by E.T.L. (No Self Certification approved).

Butts:	Hager, Stanley or McKinney
Lock and Latch Sets:	Schlage Locksets
Overhead Closers:	LCN Closers, Yale Security or Corbin/Ruswin
Push and Pulls, Kick Plates, Stops, and Miscellaneous Items:	Hager, Rockwood, Trimco, Ives

Should the contractor propose to furnish hardware other than that of the specified manufacturer, he shall submit for the Architect's approval a condensed list of hardware - listing each item, the specified item, and the proposed substitute by the manufacturer's name and catalog number. This submittal shall be made prior to the submittal of a complete schedule.

KEYING

All locks shall be master keyed into the existing Schlage key system as directed by the Owner. Keying shall be done by the lock manufacturer. Furnish four master keys, and three change keys for each lock.

All cylinders shall be construction master keyed. Furnish twelve construction keys. At the completion of the job, remove the construction keying when directed by the Architect.

All master and permanent keys shall be delivered to the Owner by registered mail.

SILENCERS

All metal frames, except for exterior doors, shall have silencers. Provide SR64 silencers, three for each door and two for each double door.

BUTTS

Butts, unless scheduled otherwise, shall be BB1279, 4-1/2" x 4-1/2" for unlabeled doors not more than 36" wide; 5" x 4-1/2" for doors over 36" wide; 4-1/2" x 4-1/2" for labeled doors not more than 36" wide; and 5" x 4-1/2" for labeled doors over 36" wide.

Provide two pair butts for doors over 7'-2" high.

CLOSERS

Where closers are scheduled, provide LCN 1460 Series for interior openings. Size shall be as recommended by the manufacturer. Opening forces shall meet ADA requirements and the State of Tennessee Accessibility Code.

Provide brackets for closers as required.

Provide hold-open arms where scheduled.

Provide regular arm or parallel arm mounting as required to install door closers in rooms and away from corridors and other public areas.

STOPS

Except where overhead door holders are scheduled, provide Type 236W stop for each door leaf. Substitute Type 241F or 243F stop of the proper height where wall stop cannot be installed.

LOCK TRIM

Lock trim shall be **SAT (S Series)**. Dummy trim knobs and roses shall be identical to those supplied with locksets. All locksets shall be beveled 1/8" on 2".

FLUSH BOLTS

Provide No. 282D flush bolts where scheduled, arranged to be inaccessible when doors are closed. Provide top bolt of sufficient length so that operating handle will be not more than 6' above the floor.

KICK PLATES

Kick plates shall be 16 gauge (.051" thick) stainless steel, beveled three sides. Provide Phillips head screws.

Unless scheduled otherwise, kick plates shall be 8" high.

Kick plates shall have a length of 2" less than nominal door width for single doors.

FINISH

Provide dull chrome plating over nickel, US26D finish, on lock and latch sets, butts, and other hardware except as noted below.

Provide stainless steel US32D finish for kick plates.

Door Closers: SBL x S.N.B.

Provide aluminum lacquer on surface closer bodies and arms.

MISCELLANEOUS ITEMS

FASTENERS Where necessary, furnish fasteners with expansion shields, toggle bolts, bolts and other anchors approved by architect, according to the material to which hardware is to be applied and the recommendations of the hardware manufacturer. All fasteners shall harmonize with hardware in material and finish.

SUPPLEMENTAL ITEMS: Any miscellaneous items, not specifically described or scheduled but required for the complete installation of all finish hardware, shall be as selected by contractor subject to approval of architect.

PART 3 - EXECUTION

INSTALLATION:

Locations of hardware shall be in accordance with recommendations of the Builders Hardware Manufacturers Association for detailed locations.

Install hardware in accurate conformity with the manufacturer's templates.

ADJUSTMENT:

Check locks and latches for correct hand and correct operation of specified lock functions. Adjust all spring-loaded devices for operations against wind conditions; friction from door coordinators, and the like; and latch friction. Adjust door closers to comply with the State Accessibility Code for opening forces. Leave the complete hardware installation operating in conformity with the manufacturer's design intent.

INSTALLATION INSPECTION: On completion of installation, and as a condition of acceptance, visually inspect all finish hardware furnished under this section and put in optimum working condition.

KEY CHANGING: On final acceptance of the work, void the construction-key system and, in architect's presence, demonstrate that specified keying system is operating properly.

TOOLS AND MANUALS: With delivery of permanent keys, furnish owner one complete set of adjustment tools and one set of maintenance manuals for locksets, latchsets and any scheduled cylinders, bolts, closers, panic devices and the like.

HARDWARE SETS:

SET NO. 1

Each to have:

3	Ea. Butts	BB1279 – 4.5" X 4.5"
1	Lever Office	S51PD - SAT
1	Door Closer	1461
1	Kick Plate	190S
1	Door Stop	As required
3	Silencers	SR64

SET NO. 2

Each to have:

6	Ea. Butts	1279 – 4.5" x 4.5"
2	Flush Bolts	282D
1	Dust Proof Strike	280X
1	Lever Office	S51PD – SAT
2	Overhead Stops	GJ450S Series
2	Silencers	SR64

SET NO. 3

Each to have:

3	Ea. Butts	1279 – 4.5" x 4.5"
1	Lever Office	S51PD – SAT
1	Door Stop	As required
3	Silencers	SR64

SECTION 08 80 00 - GLAZING

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to this section.

SUMMARY:

Extent of glass and glazing work is indicated on drawings and schedules.

Types of work in this section include glass and glazing for:

Interior glazing in metal frames.

DEFINITIONS

Manufacturer: A firm that produces primary glass or fabricated glass as defined in referenced glazing publications.

SYSTEM DESCRIPTION:

Provide glass and glazing that has been produced, fabricated and installed to withstand normal thermal movement, wind loading and impact loading (where applicable), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glass and glazing materials and other defects in the work.

Normal thermal movement is defined as that resulting from an ambient temperature range of 120 deg. F (67 deg. C) and from a consequent temperature range within glass and glass framing members of 180 deg. F (100 deg. C).

SUBMITTALS:

Product Data: Submit to owner manufacturer's technical data for each glazing material and fabricated glass product required, including installation and maintenance instructions.

Certificate: Submit certificates from respective manufacturers attesting that glass and glazing materials furnished for project comply with requirements.

Separate certification will not be required for glazing materials bearing manufacturer's permanent labels designating type and thickness of glass, provided labels represent a quality control program involving a recognized certification agency or independent testing laboratory acceptable to authorities having jurisdiction.

Compatibility and Adhesion Test Report: Submit statement from sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants and interpreting test results relative to material performance, including recommendations for primers and substrate preparation needed to obtain adhesion.

QUALITY ASSURANCE:

Glazing Standards: Comply with recommendations of Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual" except where more stringent requirements are indicated. Refer to those publications for definitions of glass and glazing terms not otherwise defined in this section or other referenced standards.

Safety Glazing Standard: Where safety glass is indicated or required by authorities having jurisdiction, provide type of products indicated which comply with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for category II materials. Provide safety glazing at all locations.

Single Source Responsibility for Glass: To ensure consistent quality of appearance and performance, provide materials produced by a single manufacturer or fabricator for each kind and condition of glass indicated and composed of primary glass obtained from a single source for each type and class required.

DELIVERY, STORAGE, AND HANDLING:

Protect glass and glazing materials during delivery, storage and handling to comply with manufacturer's directions and as required to prevent edge damage to glass, and damage to glass and glazing materials from effects of moisture including condensation, of temperature changes, of direct exposure to sun, and from other causes.

PROJECT CONDITIONS:

INSPECTION: Examine all surfaces to receive the work and report in writing to architect any detrimental conditions. Failure to observe this injunction constitutes a waiver to any subsequent claims to the contrary and holds contractor responsible for any corrections architect may require. Starting of work will be construed as acceptance of subsurfaces.

PART 2 - PRODUCTS

MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include; but are not limited to, the following:

Manufacturers of Clear, Tempered Glass Units:

Asahi Glass, AGC Industries, Inc.
Guardian Industries Corp.
Oldcastle Building Envelope.
Pilkington, Nippon Sheet Glass Co., LTD
PPG Industries, Inc.

GLASS PRODUCTS, GENERAL:

Primary Glass Standard: Provide primary glass which complies with ASTM C 1036 requirements, including those indicated by reference to type, class, quality, and, if applicable, form, finish, mesh and pattern.

Heat-Treated Glass Standard: Provide heat-treated glass which complies with ASTM C 1048 requirements, including those indicated by reference to kind, condition, type, quality, class, and, if applicable, form, finish, and pattern.

Sizes: Fabricate glass to sizes required for glazing openings indicated, with edge clearances and tolerances complying with recommendations of glass manufacturer. Provide thicknesses indicated or, if not otherwise indicated, as recommended by glass manufacturer for application indicated.

PRIMARY GLASS PRODUCTS:

Clear Float Glass: Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), 1/4" thick, unless otherwise noted.

HEAT-TREATED GLASS PRODUCTS:

Manufacturing Process: Manufacture heat-treated glass as follows:

By vertical (tong-held) or horizontal (roller hearth) process, at manufacturer's option, except provide horizontal process where indicated as "tongless" or "free of tong marks".

Uncoated Clear Heat-Treated Float Glass: Condition A (uncoated surfaces), Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), 1/4" unless otherwise noted, kind as indicated below.

Kind FT (fully tempered) where indicated and at all hazardous locations.

ELASTOMERIC GLAZING SEALANTS AND PREFORMED GLAZING TAPES:

General: Provide products of type indicated and complying with the following requirements:

Compatibility: Select glazing sealants and tapes of proven compatibility with other materials with which they will come into contact, including glass products, seals of insulating glass units, and glazing channel substrates, under conditions of installation and service, as demonstrated by testing and field experience.

Suitability: Comply with recommendations of sealant and glass manufacturers for selection of glazing sealants and tapes which have performance characteristics suitable for applications indicated and conditions at time of installation.

Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated which complies with ASTM C 920 requirements, including those for Type, Grade, Class and Uses.

Colors: Provide color of exposed sealants indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.

Two-Part Polysulfide Glazing Sealant: Type M; Grade NS; Class 25; Uses NT, M, G, A, and, as applicable to uses indicated, O.

One-Part Acid-Curing Silicone Glazing Sealant: Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to uses indicated, O.

One-Part Non-Acid-Curing Silicone Glazing Sealant: Type S; Grade NS, Class 25; Uses NT, G, A, and, as applicable to uses indicated, O; and complying with the following requirements for modulus and additional joint movement capability.

Medium Modulus: Tensile strength of not less than 45 nor more than 75 psi at 100 percent elongation when tested per ASTM D 412 after 14 days at 77 deg. F (20 deg. C) and 50 percent relative humidity.

Additional capability, when tested per ASTM C 719 for adhesion and cohesion under maximum cyclic movement, to withstand fifty percent (50%) increase and decrease of joint width, as measured at time of application, and remain in compliance with other requirements of ASTM C 920.

Preformed Butyl-Polyisobutylene Glazing Tape: Provide manufacturer's standard solvent-free butyl-polyisobutylene formulation with a solids content of 100 percent; complying with AAMA A 804.1; in extruded tape form; non staining and non-migrating in contact with nonporous surfaces; packaged on rolls with a release paper on one side; with or without continuous spacer rod as recommended by manufacturers of tape and glass for application indicated.

Available Products: Subject to compliance with requirements, glazing sealants which may be incorporated in the work include, but are not limited to, the following:

Two-Part Polysulfide Glazing Sealant:

"Synthacalk GC2+"; Pecora Corp.

One-Part Acid-Curing Silicone Glazing Sealant:

"Chem-Calk 1200"; Bostik, Inc.

"Dow Corning 999A"; Dow Corning Corp.

"Proglaze"; Tremco,

One-Part Non-Acid Curing Medium-Modulus Silicone Glazing Sealant:

"Dow Corning 795"; Dow Corning Corp.

"864NST"; Pecora Corp.

"Spectrem 2"; Tremco, Inc.

Preformed Butyl-Polyisobutylene Glazing Tape Without Spacer Rod:

"Extru-Seal"; Pecora Corp.

"PTI 303" Glazing Tape; Protective Treatments, Inc.

"Tremco 440 Tape"; Tremco Inc.

Preformed Butyl-Polyisobutylene Glazing Tape With Spacer Rod:

"Shim-Seal"; Pecora Corp.

"PTI 303" Shim Tape; Protective Treatments, Inc.

"Pre-shimmed Tremco 440 Tape"; Tremco Inc.

MISCELLANEOUS GLAZING MATERIALS:

Compatibility: Provide materials with proven record of compatibility with surfaces contacted in installation.

Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.

Setting Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.

Spacers: Neoprene, EPDM or silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for application indicated.

Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.

PART 3 - EXECUTION

EXAMINATION:

Require Glazier to inspect work of glass framing erector for compliance with manufacturing and installation tolerances, including those for size, squareness, offsets at corners; for presence and functioning of weep system; for existence of minimum required face or edge clearances; and for effective sealing of joinery. Obtain Glazier's written report listing conditions detrimental to performance of glazing work. Do not allow glazing work to proceed until unsatisfactory conditions have been corrected.

PREPARATION:

Clean glazing channels and other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrates. Remove lacquer from metal surfaces where elastomeric sealants are indicated for use.

GLAZING, GENERAL:

Comply with combined printed recommendations of glass manufacturers, of manufacturers of sealants, gaskets and other glazing materials, except where more stringent requirements are indicated, including those of referenced glazing standards.

Glazing channel dimensions as indicated in details are intended to provide for necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by job conditions at time of installation.

Protect glass from edge damage during handling and installation; use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar. Rotate glass with flares or bevels along one horizontal edge which would occur in vicinity of setting blocks so that these are located at top of opening. Remove from project and dispose of glass units with edge damage or other imperfections of kind that, when installed, weakens glass and impairs performance and appearance.

Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.

Provide tempered glass at all locations.

GLAZING:

Install setting blocks of proper size in sill rabbet, located one quarter of glass width from each corner, but with edge nearest corner not closer than 6" from corner, unless otherwise required. Set blocks in thin course of sealant which is acceptable for heel bead use.

Provide spacers inside and out, of correct size and spacing to preserve required face clearances, for glass sizes larger than 50 united inches (length plus height), except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide $\frac{1}{8}$ " minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.

Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.

Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.

Force sealants into glazing channels to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.

Tool exposed surfaces of sealants to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.

Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage to ensure that gasket will not "walk" out when installation is subjected to movement.

Miter cut wedge-shaped gaskets at corners and install gaskets in manner recommended by gasket manufacturer to prevent pull away at corners; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

PROTECTION AND CLEANING:

Protect glass from breakage immediately upon installation by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces.

Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove immediately by method recommended by glass manufacturer.

Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.

Wash glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Wash glass by method recommended by glass manufacturer.

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to this section.

SUMMARY

Types of work include:

Gypsum drywall including screw-type support systems.
Drywall finishing (joint tape-and-compound treatment).

QUALITY ASSURANCE

Gypsum Board Terminology Standard: GA-505 by Gypsum Association.

REFERENCE STANDARD: Comply with all applicable requirements of Gypsum Association (GA) GA-216 "Recommended Specifications for the Application and Finishing of Gypsum Board", except where more stringent requirements are called for herein, in local codes, or by wall board manufacturers.

Single-Source Responsibility: Obtain gypsum board products from a single manufacturer, or from manufacturers recommended by the prime manufacturer of gypsum boards.

SUBMITTALS

Product Data: Submit manufacturer's product specifications and installation instructions for each gypsum drywall component, including other data as may be required to show compliance with these specifications.

DELIVERY, STORAGE AND HANDLING

Deliver materials in original packages, containers or bundles bearing brand name and identification of manufacturer or supplier.

Store materials inside under cover and in manner to keep them dry, protected from weather, direct sunlight, surface contamination, corrosion and damage from construction traffic and other causes. Neatly stack gypsum boards flat to prevent sagging.

Handle gypsum boards to prevent damage to edges, ends or surfaces. Protect metal corner beads and trim from being bent or damaged. Steel framing and related accessories shall be stored and handled in accordance with the A.I.S.I.'s "Code of Standard Practice".

PROJECT CONDITIONS

Environmental Requirements, General: Comply with requirements of referenced gypsum board application standards and recommendations of gypsum board manufacturer, for environmental conditions before, during and after application of gypsum board.

Cold Weather Protection: When ambient outdoor temperatures are below 55° F (13 ° C) maintain continuous, uniform, comfortable building working temperatures of not less than 55° F (13 ° C) for a minimum period of 48 hours prior to, during and following application of gypsum board and joint treatment materials or bonding of adhesives.

Ventilation: Ventilate building spaces as required to remove water in excess of that required for drying of joint treatment material immediately after its application. Avoid drafts during dry, hot weather to prevent too rapid drying.

PART 2 - PRODUCTS

ACCEPTABLE MANUFACTURERS

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

Steel Framing and Furring

ClarkDietrich Building Systems
MarinoWare; Division of Ware Ind.
Scafco Steel Stud Manufacturing Co.

Gypsum Board and Related Products

CertainTeed Corp.
Georgia-Pacific Corp.
Gold Bond Building Products Div., National Gypsum Co.
United States Gypsum Co.

METAL SUPPORT MATERIALS

General Requirements

Steel Studs and Runners: ASTM C645-09.

“EQ” (Equivalent Gauge Thickness) Steel Studs and Runners:

When acceptable to the authorities having jurisdiction, members that can show certified third party testing with gypsum board in accordance with ICC ES AC86-2010 (Approved February 2010; Effective March 1,2010) need not meet the minimum thickness limitation or minimum section properties set forth in ASTM C645-09. The submission of a recognized evaluation report is acceptable to show conformance to this requirement.

Non-structural Studs: Cold-formed galvanized steel C-studs, ClarkDietrich Building Systems ProSTUD drywall studs per ASTM C645-09 for conditions indicated below:

Flange Size: 1-1/4" (32mm).

Web Depth: As indicated on the drawings, or if not indicated, 3-5/8".

Member Description: ProSTUD 25 or ProSTUD 20 DW for 25 gauge or 20 gauge indicated below.

Non-structural Track: Cold-formed galvanized steel track runners, ClarkDietrich Building Systems ProTRAK drywall track in conformance with ASTM C645-09 for conditions indicated below:

Flange Size: 1-1/4" (32mm)

Web Depth: Track web to match stud web size.

Minimum Material Thickness: Track thickness to match wall stud thickness or as per design.

Furring Members: ASTM C 645; 0.0179" min. thickness of base metal hat-shaped or "C" shaped studs.

Furring Anchorages: Manufacturer's standard screws as recommended by furring manufacturer and complying with C 754.

Wall/Partition Support Materials

Studs: ASTM C 645; 0.0179" (25 gauge) at interior locations, min. thickness base metal unless otherwise indicated.

Depth of Section: 3-5/8", except as otherwise indicated.

Runners: Match studs; type recommended by stud manufacturer for floor and ceiling support of studs, and for vertical abutment of drywall work at other work.

GYPSUM BOARD

Gypsum Wallboard: ASTM C1396/C139M-09a Standard Specification for Gypsum Board, of types, edge configuration and thickness indicated below; in maximum lengths available to minimize end-to-end butt joints.

Type: Regular, unless otherwise indicated.

Edges: Tapered.

Thickness: As indicated on drawings, or if not otherwise indicated, as required to comply with ASTM C 840 for application system and support spacing indicated; 5/8" minimum typically.

TRIM ACCESSORIES

General: Provide manufacturer's standard trim accessories of types indicated for drywall work, formed of galvanized steel unless otherwise indicated, with either knurled and perforated or expanded flanges for nailing or stapling, and beaded for concealment of flanges in joint compound. Provide corner beads, L-type edge trim-beads, U-type edge trim-beads, special L-kerf-type edge trim-beads, and one-piece control joint beads.

JOINT TREATMENT MATERIALS

General: ASTM C 475; type recommended by the manufacturer for the application indicated, except as otherwise indicated.

Joint Tape: Paper reinforcing tape.

Joint Compound: Ready-mixed vinyl-type for interior use.

Grade: 2 separate grades; one specifically for bedding tapes and filling depressions, and one for topping and sanding.

MISCELLANEOUS MATERIALS

General: Provide auxiliary materials for gypsum drywall work of the type and grade recommended by the manufacturer of the gypsum board.

Gypsum Board Screws: Comply with ASTM C 1002-07 Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.

Gypsum Board Nails: Comply with ASTM C 514.

Concealed Acoustical Sealant: Nondrying, non-hardening, non-skinning, nonstaining, non-bleeding, gunnable sealant for concealed applications per ASTM C 919.

Sound Attenuation Blankets: Unfaced mineral-fiber blanket insulation produced by combining mineral fibers of type described below with thermosetting resins to comply with ASTM 665 for Type I (blankets without membrane facing).

Mineral-Fiber Type: Fibers manufactured from glass, slag wool, or rock wool.

Minimum Thickness: 2 $\frac{3}{4}$ " or as indicated in assemblies identified.

PART 3 - EXECUTION

INSPECTION

All work herein requires coordination with trades whose work connects with, is affected or concealed by, drywall. Prior to drywall installation, carefully inspect the installed work of all other trades and verify such work is complete and that drywall may be installed in strict accordance with all pertinent codes and regulations, manufacturer's recommendations as approved by Architect, and original design.

PREPARATION FOR METAL SUPPORT SYSTEMS

Ceiling Anchorages: Coordinate work with structural ceiling work to ensure that inserts and other structural anchorage provisions have been installed to receive ceiling hangers.

INSTALLATION OF METAL SUPPORT SYSTEMS

General:

Metal Support Installation Standard: Comply with ASTM C 754. Design systems to limit deflections to less than 1/360 of the spans indicated. Provide design calculations as required to substantiate system sizes, gauges and spacing.

Wall/Partition Support Systems

Isolate stud system from transfer of structural loading to system, both horizontally and vertically. Provide slip or cushioned type joints to attain lateral support and avoid axial loading.

Install runner tracks at floors, ceilings and structural walls and columns where gypsum drywall stud system abuts other work, except as otherwise indicated.

Extend partition stud system to underside of existing wood trusses.

Space studs 16" o.c., unless otherwise indicated.

Frame door openings to comply with details indicated or if not otherwise indicated, to comply with applicable published recommendations of gypsum board manufacturer, or if not available, of "Gypsum Construction Handbook" published by United States Gypsum Co. Attach vertical studs at jambs with screws either directly to frames or to jamb anchor clips on door frames; install runner track section (for jack studs) at head and secure to jamb studs.

Frame openings other than door openings to comply with details indicated or if not indicated, in same manner as required for door openings; and install framing below sills of openings to match framing required above door heads.

Space wall furring members 16" o.c., unless otherwise indicated.

GENERAL GYPSUM BOARD INSTALLATION REQUIREMENTS

Gypsum Board Application and Finishing Standards: ASTM C 840 and GA 216 and GA 214.

Install sound attenuation blankets as indicated, prior to gypsum board unless readily installed after board has been installed.

Provide batts in maximum lengths available and width as required to fit framing.

Install batts to fill entire stud cavity. Cut lengths to friction-fit against floor and ceiling plates/track. Carefully cut to fit around outlets, junction boxes, and irregularities.

Where insulation does not fill the cavity depth, provide supplementary support as required to hold product in place.

Locate exposed end-butt joints as far from center of walls and ceilings as possible, and stagger not less than 1'-0" in alternate courses of board.

Install wall/partition boards vertically to avoid end-butt joints wherever possible. At high walls, install boards horizontally with end joints staggered over studs.

Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16" open space between boards. Do not force into place.

Locate either edge or end joints over supports, except in horizontal applications or where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that like edges abut, tapered edges against tapered edges and mill-cut or field-cut ends against mill-cut or field-cut ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.

Attach gypsum board to supplementary framing and blocking provided for additional support at openings and cutouts.

Control joints: Isolate gypsum panel surfaces with control joints in the following locations unless otherwise directed by the Architect:

Interior Partitions:

Construction changes within plane of partition.

Partition run which exceeds 30 feet.

Less than ceiling height door and window frames should have control joints extending to the ceiling from both corners.

Cover both faces of steel stud partition framing with gypsum board in concealed spaces (above ceilings, etc.).

Isolate perimeter of non-load-bearing drywall partitions at structural abutments. Provide ¼" to ½" space and trim edge with J-type semi finishing edge trim. Seal joints with acoustical sealant.

Space fasteners in gypsum boards in accordance with referenced standards and manufacturer's recommendations, except as otherwise indicated.

METHODS OF GYPSUM DRYWALL APPLICATION

Single-Layer Application: On partitions/walls apply gypsum board vertically (parallel), unless otherwise indicated, and provide sheet lengths which will minimize end joints.

Single-Layer Fastening Methods: Apply gypsum boards to supports as follows: Fasten with screws.

INSTALLATION OF DRYWALL TRIM ACCESSORIES

General: Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges by nailing or stapling in accordance with manufacturer's instructions and recommendations.

Install metal corner beads at external corners of drywall work.

Install metal edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed, and except where plastic trim is indicated. Provide type with face flange to receive joint compound except where semi-finishing type is indicated. Install L-type trim where work is tightly abutted to other work, and install special kerf-type where other work is kerfed to receive long leg of L-type trim. Install U-type trim where edge is exposed, revealed, gasketed, or sealant-filled.

Drawings do not necessarily show all locations and all requirements for metal trim in connection with the work. Carefully study drawings and the installation; provide in place all metal trim normally recommended by the dry wall manufacturer.

Install metal trim in strict accordance with manufacturer's recommended installation methods; provide no lesser embedment and finishing than specified above for corner treatment.

Installation of Control Joints: Sheathing should be broken behind control joints. Where vertical and horizontal joints intersect, the vertical joint should be continuous and the horizontal joint should abut it. Splices, terminals and intersections should be caulked with a sealant.

FINISHING OF DRYWALL

General: Apply treatment at gypsum board joints (both directions), flanges of trim accessories, penetrations, fastener heads, surface defects and elsewhere as required to prepare work for decoration. Prefill open joints and rounded or beveled edges, if any, using type of compound recommended by manufacturer.

Apply joint tape at joints between gypsum boards, except where trim accessories are indicated.

Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:

Level 2: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges in ceiling plenum areas, and in concealed areas, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.

Level 4: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges, typical at all locations unless otherwise indicated.

Refer to sections on painting, coatings and wall-coverings in Division-9 for decorative finishes to be applied to drywall work.

PROTECTION OF WORK

Provide final protection and maintain conditions, in a manner suitable to Installer, which ensures gypsum drywall work being without damage or deterioration at time of substantial completion.

CLEAN-UP: In addition to the requirements of the GENERAL CONDITIONS, use all necessary care during execution of the work of this section to prevent undue scattering of drywall scraps and dust and to prevent tracking of joint and finishing compounds onto floor surfaces. On completion of each installation segment in a room or space, promptly pick up and remove from the working area all scraps, debris and surplus materials.

SECTION 09 51 00 - ACOUSTICAL CEILINGS

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to this section.

SUMMARY

Extent of each type of acoustical ceiling is shown and scheduled on drawings.

Types of acoustical ceilings specified in this section include the following:

Non-fire rated acoustical panel ceilings, exposed suspension.

1. The Base bid shall include new ceiling tile and grid in those areas as indicated on plan A9/A401. Match existing tile and grid.
2. Alternate #3 - Replace all existing ceiling tile, which are not replaced in base bid with new ceiling tile. See schedule for type. Existing grid to remain.

SUBMITTALS:

Product Data: Submit manufacturer's technical data for each type of acoustical ceiling unit and suspension system required, including attachments, intersections of members and edge conditions. Requirements shall include, but are not limited to, single source material supply, certified acoustical performance as classified by Underwriters Laboratories, panel design, size, composition, color and finish, suspension system profiles and sizes, compliance with referenced standards.

Shop Drawings: Submit shop drawings for trimmed ceiling fascia system showing layout arrangement of ceiling design and locations of related integrated lighting and air distribution components.

Include details of trim pieces, attachment clips, splice plates and corner pieces.

Samples for Initial Selection Purposes: Submit manufacturers' standard size samples of acoustical units, but not less than 6" square, and of exposed ceiling suspension members including wall and special moldings. Provide samples showing full range of colors, textures and patterns available for each type of component required.

Samples for Verification Purposes: Submit the following:

6" square samples of each acoustical panel type, pattern and color.

Set of 12" long samples of exposed main runners, cross tees, and moldings for each color and system type required.

Certificates: Submit certificates from manufacturers of acoustical ceiling units and suspension systems attesting that their products comply with specification requirements.

Warranty: Submit a written warranty executed by the manufacturer, agreeing to repair or replacement of acoustical panels that fall within the warranty period. Failures include, but are not limited to:

Acoustical Panels: Sagging, warping, growth of mold or mildew, and manufacturer's defects

Grid System: Rusting, warping, distortions, and manufacturer's defects.

Warranty period for acoustical panels and grid systems designated to be humidity resistant shall be fifteen (15) years after date of substantial completion.

Manufacturer's warranty shall not deprive the owner of other rights under other provisions of the Contract Documents, and will be in addition to and run concurrent with other warranties made by the contractor under the requirements of the Contract Documents.

QUALITY ASSURANCE:

REFERENCED STANDARDS: Comply with all applicable requirements of Acoustical Materials Association Bulletin "Architectural Acoustical Materials".

CISCA "Ceilings & Interior Systems Construction Association", "Recommendations for Direct-hung Acoustical Tile and Lay-in Panel Ceilings (Zones 0-2)

ASTM A 366 "Standard Specification for Steel, Carbon Cold-Rolled Sheet, Commercial Quality".

ASTM A 641 "Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire".

ASTM C 423 "Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method".

ASTM C 635 "Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings".

ASTM C 636 "Recommended Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels".

ASTM E 84 "Standard Test Method for Surface Burning Characteristics of Building Materials".

ASTM E 1414 "Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum".

ASTM E 1111 "Standard Test Method for Measuring the Interzone Attenuation of Ceiling Systems"

ASTM E 1264 "Classification for Acoustical Ceiling Products"

ASTM E-1477 "Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers".

ASTM G-21 "Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi".

Coordination of Work: Coordinate layout and installation of acoustical ceiling units and suspension system components with other work supported by, or penetrating through, ceilings, including light fixtures, HVAC equipment, fire-suppression system components (if any), and partition system (if any).

Single Source Responsibility: To ensure proper interface and color match, all acoustical panel units and grid components shall be produced or supplied by a single manufacturer. Combined ceiling panel and grid system installation of multiple manufacturers is not permissible.

DELIVERY, STORAGE AND HANDLING

Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination or other causes.

Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.

Handle acoustical ceiling units carefully to avoid chipping edges or damaging units in any way.

PROJECT CONDITIONS

Space Enclosure: Do not install interior acoustical ceilings until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient conditions of temperature and humidity will be continuously maintained at values near those indicated for final occupancy.

EXTRA MATERIALS

Deliver extra materials to Owner. Furnish extra materials described below matching products installed, packaged with protective covering for storage and identified with appropriate labels.

Acoustical Ceiling Units: Furnish quantity of full size units equal to 1.0% of amount of each type installed.

Grid Suspension Systems: Furnish quantity of 4' and 2' cross tees equal to 1 carton of each type installed.

PART 2 - PRODUCTS

ACOUSTICAL CEILING UNITS, GENERAL

Standard for Acoustical Ceiling Units: Provide manufacturer's standard units of configuration indicated which are prepared for mounting method designated and which comply with FS SS-S-118 requirements, including those indicated by reference to type, form, pattern, grade (NRC or NIC as applicable), light reflectance coefficient (LR), edge detail, and joint detail (if any).

Mounting Method for Measuring NRC: No. 7 (mechanically mounted on special metal support), FS SS-S-118; or Type E-400 mounting as per ASTM E 795.

Sound Attenuation Performance: Provide acoustical ceiling units with ratings for ceiling sound transmission class (STC) of range indicated as determined according to AMA 1-II "Ceiling Sound Transmission Test by Two-Room Method" with ceilings continuous at partitions and supported by a metal suspension system of type appropriate for ceiling unit of configuration indicated (concealed for tile, exposed for panels).

Colors, Textures, and Patterns: Provide products to match appearance characteristics indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors, surface textures, and patterns available for acoustical ceiling units and exposed metal suspension system members of quality designated.

ACOUSTICAL PANELS

Mineral Composition Panels - Nodulated, Cast or Molded; with Standard Washable Painted Finish: Provide Type III, Form 1 units per FS SS-S-118 and complying with the following requirements:

Non-Rated Exposed Grid Panels

Perforated and Fissured Pattern: Manufacturer's standard perforated and fissured design; other panel characteristics as follows:

At typical locations throughout the project, provide the following:

Type "A" - Match Existing ceiling tile and grid

The Base bid shall include new ceiling tile and grid in those areas as indicated on plan A9/A401. Match existing tile and grid.

Alternate #3 - Replace all existing ceiling tiles, which are not replaced in base bid with new ceiling tiles. See schedule Type "B". Existing grid to remain.

Type "B" - Armstrong's Beveled Tegular Cirrus , #535 with Hardware Friendly Options #HF535 or equal panel complying with the following:

Color/Light Reflectance: White/Minimum LR .83.

UL Classified NRC: .70.

UL Classified CAC: Minimum 35.

Flame spread: Class A (ASTM E-1264), 0-25 (ASTM E-84).

Sag/Humidity Resistance Performance: Humiguard Plus.

Edge Detail: Beveled tegular.

Size: 24" x 48" x 3/4".

Available Products: Subject to compliance with requirements, manufacturer's offering panel products which may be incorporated in the work include, but are not limited to, the following:

Armstrong World Industries
Certain Teed Ceilings
USG Acoustical Products Co.

METAL SUSPENSION SYSTEMS, GENERAL

Standard for Metal Suspension Systems: Provide metal suspension systems of type, structural classification and finish indicated which comply with applicable ASTM C 635 requirements.

Finishes and Colors: Provide manufacturer's standard factory-applied finish for type of system indicated. For exposed suspension members and accessories with painted finish, provide color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's full range of standard colors.

Attachment Devices: Size for 5 times design load indicated in ASTM C 635, Table 1, Direct Hung.

Hanger Wire: Galvanized carbon steel wire, ASTM A 641, soft temper, prestretched, Class 1 coating, sized so that stress at 3-times hanger design load (ASTM C 635, Table 1, Direct Hung), will be less than yield stress of wire, but provide not less than 12 gage.

Edge Moldings and Trim: Metal or extruded plastic of types and profiles indicated or, if not indicated, provide manufacturer's standard molding for edges and penetrations of ceiling which fits with type of edge detail and suspension system indicated.

For Lay-in Panels with Reveal Edge Details, provide stepped edge molding which forms reveal of same depth and width as that formed between edge of panel and flange of exposed suspension system.

Impact and Hold Down Clips: Provide manufacturer's standard impact and hold down clip system designed to hold panels in place and absorb impact force against lay-in panels at vertical surfaces and elsewhere as noted.

MANUFACTURERS

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

Manufacturers of Suspension Systems:

Chicago Metallic Corporation
USG Corporation
Armstrong World Industries, Inc.

MISCELLANEOUS MATERIALS

Acoustical Sealant: Resilient, non-staining, non-shrinking, non-hardening, concealed construction joints.

Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:

Pecora AIS-919
Tremco Smoke and Sound
Tremco Acoustic Sealant.

PART 3 - EXECUTION

PREPARATION

Coordination: Furnish layouts for cast-in-place anchors, clips, and other ceiling anchors whose installation is specified in other Sections.

Coordinate work of this section with mechanical and electrical trades. It is the intent that mechanical and electrical items that are located in ceiling panels be centered in those panels. Make other trades aware of proposed ceiling layout so that those items, including but not limited to sprinkler heads, lights, diffusers, exhausts, detectors, and exit signs, may be installed centered in panels, unless otherwise approved by the architect.

Furnish cast-in-place anchors and similar devices to other trades for installation well in advance of time needed for coordinating other work.

Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and comply with layout shown on reflected ceiling plans.

INSTALLATION

General: Install materials in accordance with manufacturer's printed instructions, and to comply with governing regulations, and CISCA standards applicable to work.

Arrange acoustical units and orient directionally-patterned units (if any) in manner shown by reflected ceiling plans, or if not shown, as directed by the Architect.

Install tile with pattern running in one direction.

Install suspension systems to comply with ASTM C 636, with hangers supported only from building structural members. Locate hangers not less than 6" from each end and spaced 4'-0" along each carrying channel or direct-hung runner, unless otherwise indicated, leveling to tolerance of $\frac{1}{8}$ " in 12'-0".

Comply with seismic requirements for Zone 2 as recommended by CISCA and required by authorities having jurisdiction. All perimeter closure angles shall provide a support ledge of $\frac{7}{8}$ " or greater with the terminal ends of tees resting on the molding with $\frac{3}{8}$ " clearance from the wall on all sides. At wall closure ledges, tees shall be prevented from spreading (with item such as stabilizer bars) and shall not be permanently attached to the molding. No pop rivets shall be allowed for tee attachment to perimeter molding. All light fixtures shall require two safety wires installed at opposite diagonal corners. Coordinate additional requirements with applicable electrical codes.

Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eye-screws, or other devices which are secure and appropriate for substrate, and which will not deteriorate or fail with age or elevated temperatures.

Install structural hangers plumb and free from contact with insulation or other objects within ceiling plenum which are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal force by bracing, counter splaying or other equally effective means.

Install edge moldings of type indicated at perimeter of acoustical ceiling area and at locations where necessary to conceal edges of acoustical units.

Sealant Bed: Apply continuous ribbon of acoustical sealant, concealed on back of vertical leg before installing moldings.

Screw-attach moldings to substrate at intervals not over 16" o.c. and not more than 3" from ends, leveling with ceiling suspension system to tolerance of $\frac{1}{8}$ " in 12'-0". Miter corners accurately and connect securely.

Install acoustical tile in coordination with suspension system. Place splines or flanges of suspension system into kerfed edges, or insert tile tongues into tile grooves, so that every tile-to-tile joint is closed by double lap of material.

Fit adjoining tile to form flush, tight joints. Scribe and cut for accurate fit at borders and around penetrating work.

Hold tile field in compression by inserting leaf-type spring steel spacers between tile and moldings, spaced at 12" o.c.

Fabricate access units for special suspension system access members and tile units modified as required to allow for removal of access units.

Install acoustical panels in coordination with suspension system, with edges concealed by support of suspension members. Scribe and cut panels to fit accurately at borders and at penetrations.

Install hold-down and impact clips in areas indicated, and in areas where required by governing regulations space as recommended by panel manufacturer, unless otherwise indicated or required.

CLEANING

Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members; comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09 51 00

SECTION 09 65 00 - RESILIENT FLOORING

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.

DESCRIPTION OF WORK:

Extent of resilient flooring and accessories is shown on drawings and in schedules.

Work under this section includes removal of existing tile flooring as shown on the Contract Documents.

Types of resilient flooring work include the following:

- Luxury Vinyl Tile
- Vinyl base
- Vinyl edge strip and miscellaneous accessories

QUALITY ASSURANCE:

Manufacturer: Provide each type of resilient flooring and accessories as produced by a single manufacturer, including recommended primers, adhesives, sealants, and leveling compounds.

Installer Qualifications: Engage an experienced Installer who has completed installations similar in material and extent to that indicated for project and that has resulted in construction with a record of successful in-service performance.

The Flooring Contractor shall have completed at least three projects of similar magnitude, material and complexity, and must provide project reference details including contact names and telephone numbers.

Interior Finish Classification: All finishes shall be classified as Class A, Class B, or Class C, as based on the results from NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials. Classification shall be clearly identified on all submittal information associated with products of this specification.

SUBMITTALS:

Product Data: Submit manufacturer's technical data for each type of resilient flooring and accessory.

Samples for Initial Selection Purposes: Submit manufacturer's standard box or Binder of actual sections of resilient flooring, including accessories, showing full range of colors and patterns available, for each type of resilient flooring required.

Samples for Verification Purposes: Submit the following samples of each type, color, and pattern of resilient flooring required, showing full-range of color and pattern variations.

- 6" x 36" size LVT Plank samples.
- 2½' long samples of resilient flooring accessories.
- Other materials as requested.

Maintenance Instructions: Submit 2 copies of manufacturer's recommended maintenance practices for each type of resilient flooring and accessory required.

PROJECT CONDITIONS:

Delivery, storage and handling:

Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

Storage and Protection: Store materials protected for exposure to harmful weather conditions and at a temperature and humidity conditions recommended by the manufacturer.

Materials should be stored in areas that are fully enclosed, weather tight with the permanent HVAC system set at a uniform temperature of at least 65°F (18°C) for 48 hours prior to, during and after installation. Subsequently, maintain minimum temperature of 55°F (13°C) in areas where work is completed.

Move resilient flooring and installation accessories into spaces where they will be installed at least 48 hours before installation, unless longer conditioning periods are recommended in writing by the manufacturer.

Substrate conditions:

Install resilient flooring and accessories after other finishing operations, including painting, have been completed. Do not install resilient flooring over concrete slabs until the latter have been cured and are sufficiently dry to achieve bond with adhesive. Use the method described below to determine the dryness as required to ensure initial and long term success, unless another method is approved by the architect.

F1869-98 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride:

This test method covers the quantitative determination of the rate of moisture vapor emitted from below-grade, on-grade, and above-grade (suspended) concrete floors.

The Installer shall be responsible for conducting one calcium chloride test for every 1,000 square feet of concrete flooring to be surfaced (minimum 3 tests) to ensure concrete moisture emissions do not exceed 5.0 lbs per 1,000 square feet within a 24-hour period. The test should be conducted a minimum of 60 days prior to flooring installation, but not less than 60 days after installation of the concrete flooring.

Submit the test results to the Architect prior to the start of any flooring installation.

Contingency for High Moisture Readings: If at the time of testing, the moisture readings are in excess of 5.0 lbs, the Installer will wait 30 days and retest those areas in excess of 5.0 lbs.

If at the time of retesting, the moisture readings continue in excess of 5.0 lbs, the Installer will notify the architect who will initiate testing using petrographic analysis to determine Water Cement Ratio and if sufficient hydration has taken place, and will initiate any required remediation.

Replacement Material/Extra Stock: Resilient Floors:

After completion of work, deliver replacement materials and stock of maintenance materials for tile flooring to Owner. Furnish maintenance materials from same manufactured lot as materials installed and enclosed in protective packaging with appropriate identifying labels.

Tile Flooring: Furnish not less than one box for each 50 boxes or fraction thereof, for each type, color, pattern and size installed.

PART 2 - PRODUCTS

ACCEPTABLE MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

Manufacturers of Luxury Vinyl Tile:

Tarkett USA
Shaw Contract
Mohawk Commercial

Manufacturers of Vinyl Wall Base:

Armstrong World Industries, Inc.
Johnsonite
Flexco Div., Textile Rubber Co.

Manufacturers of Rubber Wall Base:

Johnsonite
Flexco Div., Textile Rubber Co.
Roppe Corp.

RESILIENT FLOORING COLORS AND PATTERNS:

Provide color and patterns as indicated, or if not otherwise indicated, as selected by Architect from manufacturer's standards.

Up to two colors may be selected for each area to receive Luxury Vinyl Tile. One color shall serve as a theme while the others shall serve as a border and/or accents.

Actual patterns, if not shown on the drawings, shall be provided by the Architect for each area prior to installation.

Provide tile trim and accessories which match color and finish of adjoining flat tile.

TILE FLOORING:

Luxury Vinyl Tile:

Commercial Luxury Vinyl Tile : Provide Luxury Vinyl Tile, Tandus Centiva - Contour Series - Wood Collection, as manufactured by Tarkett USA, and complying with the following requirements:

Product Type: Commercial Luxury Vinyl Tile
Overall Thickness: 0.120" 3.0 mm
Wear Layer: 32 mil (0.76 mm)
Finish: Techtonic
Edge Treatment: Square Edge
Emboss: as selected from manufactures available options
Warranty: 20 year limited commercial wear warranty
Size: 6" x 36"
Installation Method: Direct Glue
Classification: ASTM F1700 - Class III, Type B
Static Load: ASTM F970 - Passes, modified -2000psi
Smoke Density: ASTM E662 - Less than 450

Color: As selected from manufacturer's standards.
Up to two colors may be selected for each area to receive Luxury Vinyl Tile .
One color shall serve as a theme while the others shall serve as a border and/or accents.

Pattern: Actual patterns, if not shown on the drawings, shall be provided by the Architect for each area prior to installation.

Lobby/Waiting 101 - Shall have a 12" and a 24" border - as indicated on drawing - color one. In the center of the border the LVT plank shall be laid in a herringbone pattern - color two.

All other areas to receive LVT plank - install in the same direction, in a random pattern, and offset plank end joints.

Colors and pattern have been selected based on available colors and patterns from those colors and patterns indicated. Color and pattern shall be used as a criteria for approval of any substitute material.
Products which cannot provide a comparable color palette to those identified shall not be accepted.

ACCESSORIES:

Wall Base: Provide base complying with ASTM F-1861; either Type I rubber or Type II vinyl, with matching end stops and preformed or molded corner units, and as follows:

Height: 4".

Thickness: 1/8" gage.

Style: Standard top-set cove, unless noted otherwise.

Finish: Matte.

Resilient Edge Strips: 1/8" thick, homogeneous vinyl or rubber composition, tapered or bullnose edge, color to match flooring, or as selected by Architect from standard colors available; not less than 1" wide.

Adhesives (Cements): Waterproof, stabilized type as recommended by flooring manufacturer to suit material and substrate conditions.

Concrete Slab Primer: Non-staining type as recommended by flooring manufacturer.

Leveling and Patching Compounds: Provide a Portland cement-based, self-drying, trowelable finishing underlayment which can receive floor covering as soon as the surface hardens, equal to ARDEX SD-F Feather Finish, as manufactured by ARDEX Engineered Cements.

PART 3 - EXECUTION

INSPECTION:

Installer shall examine areas and conditions under which resilient flooring and accessories are to be installed to determine that they are satisfactory. A satisfactory subfloor surface is defined as one that is smooth and free from cracks, holes, ridges, coatings preventing adhesive bond, and other defects impairing performance or appearance. Installer must notify General Contractor/Construction Manager in writing of any areas not acceptable. Do not proceed with work until unsatisfactory conditions have been corrected.

Perform bond and moisture tests, as discussed in project conditions section, on concrete subfloors to determine if surfaces are sufficiently cured and dry as well as to ascertain presence of curing compounds.

Do not proceed with resilient flooring work until subfloor surfaces are satisfactory. Proceeding with the work with no notice to the General Contractor/Construction Manager of subfloor deficiencies, shall be construed to acceptance of the subfloor by the installer at full responsibility for completed work.

PREPARATION:

Prepare subfloor surfaces as follows:

Broom clean and vacuum surfaces to be covered and inspect subfloor. Start of flooring installation indicates acceptance of subfloor conditions and full responsibility for completed work.

Use leveling and patching compounds as recommended by manufacturer's current product literature for complete installation details on filling small cracks, holes and depressions in subfloors.

Underlayment shall be able to be installed from a true feather edge to 1/2" thick over large areas and to any thickness in well-defined areas such as filling holes or gouges and for making ramps.

Underlayment shall not require that the substrate be primed.

Underlayment shall be formulated with a Portland cement matrix which develops a compressive strength of 4200 psi when tested in accordance with ASTM C109/mod. (air-cure only).

Underlayment shall not require the addition of latex or any additive other than potable water.

In all public corridor areas that exceed 20 feet in length, the entire concrete floor shall be "skim coated" to ensure that all imperfections are corrected prior to the installation of the floor covering

Remove coatings from subfloor surfaces that would prevent adhesive bond by grinding before installing resilient flooring products. Remove all curing compounds, agents and surface hardeners. Floor substrate to be smooth, rigid free, flat, level, permanently dry, clean and free of foreign materials such as dirt, paint, grease, oils, solvent, sealers, asphalt, rocks and old adhesive residue.

At locations with existing vinyl composition tile, sheet vinyl, carpet, or other existing finish surface other than vinyl asbestos tile, remove existing flooring down to sub-floor and dispose of waste materials as approved by governing authorities.

Provide commercial stripper approved by flooring manufacturer to remove glue, oil, dirt, and other materials which would negatively affect installation of new flooring.

Apply concrete slab primer, if recommended by flooring manufacturer, prior to application of adhesive. Apply in compliance with manufacturer's directions.

INSTALLATION:

INSTALLATION, GENERAL:

Where movable or temporary partitions are shown, install resilient flooring before partitions are erected.

Install resilient flooring using method indicated in strict compliance with manufacturer's printed instructions. Extend resilient flooring into toe spacers, door reveals, and into closets and similar openings.

Scribe, cut, and fit resilient flooring to permanent fixtures, built-in furniture and cabinets, pipes, outlets and permanent columns, walls and partitions.

Maintain reference markers, holes, or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other non-permanent marking device.

Install resilient flooring on covers for telephone and electrical ducts, and items occurring within finished floor areas. Maintain overall continuity of color and pattern with pieces of flooring installed on these covers. Tightly cement edges to perimeter of floor around covers and to covers.

Tightly cement resilient flooring to subbase without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections. Hand roll resilient flooring at perimeter of each covered area to assure adhesion.

INSTALLATION OF TILE FLOORS:

Lay tile from center marks established with principal walls, discounting minor offsets, so that tile at opposite edges of room are of equal width. Adjust as necessary to avoid use of cut widths less than ½ tile at room perimeters. Lay tile square to room axis, unless otherwise shown. Establish reference points on the substrate.

Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged if so numbered. Cut tile neatly around all fixtures. Broken, cracked, chipped, or deformed tile are not acceptable.

Install LVT Planks in the same direction, in a random pattern, and offset plank end joints, unless otherwise noted.

Adhere tile flooring to substrates using full spread of adhesive applied in compliance with flooring manufacturer's directions.

INSTALLATION OF ACCESSORIES:

Apply wall base to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is required. Install base in lengths as long as practicable, with preformed corner units, or fabricated from base materials

with mitered or coped inside corners. Tightly bond base to backing throughout length of each piece, with continuous contact at horizontal and vertical surfaces.

On masonry surfaces, or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.

Place resilient edge strips tightly butted to flooring and secure with adhesive. Install edging strips at edges of flooring which would otherwise be exposed.

CLEANING AND PROTECTION:

Perform following operations immediately upon completion of resilient flooring:

Sweep and vacuum floor thoroughly.

Do not wash floor until time period recommended by resilient flooring manufacturer has elapsed to allow resilient flooring to become well sealed in adhesive.

Damp-mop floor being careful to remove black marks and excessive soil.

Remove any excess adhesive or other surface blemishes, using appropriate cleaner recommended by resilient flooring manufacturers.

Protect flooring against damage during construction period to comply with resilient flooring manufacturer's directions.

Clean resilient flooring not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Clean resilient flooring by method recommended by resilient flooring manufacturer.

END OF SECTION 09 65 00

SECTION 09 91 00 - PAINTING

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections apply to this section.

SUMMARY

This Section includes surface preparation, painting, and finishing of exposed interior items and surfaces.

Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified under other sections.

Paint interior exposed surfaces whether or not colors are designated in "schedules," except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the architect will select from standard colors or finishes available.

Painting includes field painting exposed interior bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment.

Refer to the Finish Schedule and Specification Section 01 23 00 - Alternates for areas that are not to be painted and areas that are to be painted in the varying alternates.

Painting is not required on some pre-finished items, finished metal surfaces, concealed surfaces, operating parts, and labels. Assume all items and areas shall be finished with the exception of the following:

Pre-finished items not to be painted include the following factory-finished components:

Products finished with laminated plastic.
Acoustic materials.
Architectural woodwork and casework.
Finished mechanical and electrical equipment, except panel box covers in public areas.
Light fixtures.

Concealed surfaces not to be painted include wall or ceiling surfaces above lay-in ceiling areas.

Finished metal surfaces not to be painted include:

Anodized aluminum.
Stainless steel.
Chromium plate.
Copper.
Bronze.
Brass.

Operating parts not to be painted include moving parts of operating equipment such as the following:

Valve and damper operators.
Linkages.
Sensing devices.
Motor and fan shafts.

Labels: Do not paint over Underwriter's Laboratories, Factory Mutual or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

Related Sections: The following sections contain requirements that relate to this section:

Division 6 Section "Architectural Woodwork" for shop priming architectural woodwork.

Division 8 Section "Steel Doors and Frames" for shop priming steel doors and frames.

Division 8 Section "Flush Wood Doors" for factory finished wood doors.

DEFINITIONS

Paint includes coating systems materials, primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate, or finish coats.

SUBMITTALS

Product Data: Manufacturer's technical information, label analysis, and application instructions for each material proposed for use.

List each material and cross-reference the specific coating and finish system and application. Identify each material by the manufacturer's catalog number and general classification.

Samples for initial color selection in the form of manufacturer's color charts.

After color selection, the architect will furnish color chips for surfaces to be coated.

QUALITY ASSURANCE:

Single Source Responsibility: Provide primers and undercoat paint produced by same manufacturer as finish coats.

REFERENCE STANDARDS: Comply with standards and procedures and all applicable requirements of Painting and Decorating Contractors of America Manual (Type 1) unless otherwise particularly specified herein.

Coordination of Work: Review other sections in which prime paints are provided to ensure compatibility of the total systems for various substrates. Upon request, furnish information on characteristics of finish materials provided for use, to ensure compatible primers. coats are used.

Notify the architect of problems anticipated using the materials specified.

Field Samples: On wall surfaces and other exterior and interior components, duplicate finishes of prepared samples. Provide full-coat finish samples on at least 100 sq. ft. of surface until required sheen, color and texture are obtained; simulate finished lighting conditions for review of in-place work.

Final acceptance of colors will be from job-applied samples.

The architect will select one room or surface to represent surface and conditions for each type of coating and substrate to be painted. Apply coatings in this room or surface in accordance with the schedule or as specified. After finishes are accepted, this room or surface will be used for elevation of coating systems of a similar nature.

Material Quality: Provide the manufacturer's best quality trade sale paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.

Proprietary names used to designate colors or materials are not intended to imply that products named are required or to exclude equal products of other manufacturers.

Federal Specifications established a minimum quality level for paint materials, except where other product identification is used. Provide written certification from the manufacturer that materials provided meet or exceed these criteria.

Products that comply with qualitative requirements of applicable Federal Specifications, yet differ in quantitative requirements, may be considered for use when acceptable to the architect. Furnish material data and manufacturer's certificate of performance to architect for proposed substitutions.

Interior Finish Classification: All interior wall or ceiling finishes shall be classified as Class A, Class B, or Class C, as based on the results from NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials or ASTM E 84. Classification shall be clearly identified on all submittal information associated with products of this specification.

DELIVERY AND STORAGE:

Deliver materials to job site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and following information:

- Product name or title of material.
- Product description (generic classification or binder type).
- Federal Specification number, if applicable.
- Manufacturer's stock number and date of manufacture.
- Contents by volume, for major pigment and vehicle constituents.
- Thinning instructions.
- Application instructions.
- Color name and number.

Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain containers used in storage in a clean condition, free of foreign materials and residue.

Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take all precautions to ensure that workmen and work areas are adequately protected from fire hazards and health hazards resulting from handling, mixing and application of paints.

JOB CONDITIONS:

Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50F (10C) and 90F (32C).

Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are

between 45F (7C) and 95F (35C).

Do not apply paint in snow, rain, fog or mist; or when relative humidity exceeds 85%; at temperatures less than 5 deg F (3 deg C) above the dew point, or to damp or wet surfaces.

Painting may be continued during inclement weather if areas and surfaces to be painted are enclosed and heated within temperature limits specified by paint manufacturer during application and drying periods.

APPLICATOR QUALIFICATIONS:

Provide at least one person present at all times during execution of the work who is thoroughly familiar with the specified requirements and the materials and methods needed for their execution, and who directs all work performed under this section.

Provide adequate numbers of workmen skilled in the necessary crafts and informed in the methods and materials to be used. In acceptance or rejection of the work, architect will make no allowance for inability on the part of workmen.

PART 2 - PRODUCTS

VOC LIMITS:

Provide products which conform to the National AIM VOC Limits / Guidelines.

<u>Paint</u>	<u>VOC Limit</u>
Non-flat	150 g/l or 1.25 lb./gal.
Flat	50 g/l or .42 lb./gal.

Provide manufacturers written documentation confirming conformance to the above referenced requirement.

MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

- Benjamin Moore and Co. (Moore)
- Farrell Calhoun (FC)
- Glidden Professional (Glidden)
- PPG Porter Paints (PPG)
- The Sherwin-Williams Company (S-W)

PRIMERS

Water and Miscellaneous Stains and Spots: Use pigmented white shellac or specialized products such as "Kilz" to provide spot coating of water spots, stains, marks, etc. prior to application of other products.

Latex-Based Interior White Primer: Latex-based primer coating used on interior gypsum drywall under a flat latex paint or an alkyd semigloss enamel.

- FC: Perfik-Seal 380 Interior Latex Primer/Sealer
- Glidden: 36600 Ultra-Hide Interior Primer Sealer
- PPG: 6-2 Speedhide Interior Latex Primer

S - W: Pro-Mar 400 Latex Wall Primer B28W04600.

Synthetic, Rust-Inhibiting Primer: Quick-drying, rust-inhibiting primer for priming ferrous metal on the exterior under full-gloss and flat alkyd enamel and on the interior under flat -gloss and flat alkyd enamel and on the interior under flat latex paint or odorless alkyd semigloss or alkyd gloss enamels:

FC: Tuff-Boy 1024 Quick Dry Rust-Stop Primers
Glidden: 4160 Devguard Tank & Structural Alkyd Metal Primer
PPG: 6-208/212 Speedhide Alkyd Rust Inhibitive Metal Primer.
S - W: Kem Kromik Universal Metal Primer B50NZ6/WZ1/AZ6.

Undercoat Materials:

Interior Enamel Undercoat: Ready-mixed enamel for use as an undercoat over a primer on ferrous or zinc-coated metal under an interior alkyd semigloss enamel or a full-gloss alkyd enamel:

FC: 500 Line Interior Semi-Gloss Alkyd Enamel
Glidden: 1516 Ultrahide Alkyd Semi-Gloss Enamel
PPG: 20-110 Satinhide Alkyd Semi-Gloss Enamel
S - W: Pro-Mar 200 Alkyd Semi-Gloss Enamel B34W200.

INTERIOR FINISH PAINT MATERIAL

Interior Semigloss Latex Enamel: Ready mixed, latex based, semigloss enamel for use over a primer and undercoat on concrete, masonry (including concrete masonry block), plaster, wood, and hardboard and both ferrous and zinc-coated (galvanized) metal surfaces and over a primer on gypsum drywall:

FC: 600 Line 100% Acrylic Interior Semi-Gloss Latex Enamel
Glidden: 13210 Dulux Diamond Acrylic Latex Semi-gloss Enamel
PPG: 6-510 Speedhide Acrylic Latex Semi-gloss Enamel
S-W: ProMar 200 Latex Semigloss Enamel, B31Y02657

Latex-Based Interior Eggshell Paint: Ready-mixed, latex-based paint for use as a flat finish over concrete and masonry surfaces, including filled concrete block, and plaster and over prime-coated gypsum drywall, ferrous metal, and zinc-coated metal surfaces:

FC: 300 Line Interior Premiun Flat Latex Wall Paint
Glidden: 15110 Dulux Diamond Acrylic Latex Flat Paint
PPG: 80-310 Wallhide Acrylic Flat Wall Paint
S-W: ProMar 200 Latex Flat Wall Paint, B20W12651

PART 3 - EXECUTION

EXAMINATION

Examination substrates and conditions under which painting will be performed for compliance with requirements for application of paint. Do not begin paint application until unsatisfactory conditions have been corrected.

Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.

PREPARATION:

General Procedures: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items in place that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Remove these items if necessary for complete painting of the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skilled in the trades involved.

Clean surfaces before applying paint or surface treatments. Remove oil and grease prior to cleaning. Schedule cleaning and painting so that dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

Surface Preparation: Clean and prepare surfaces to be painted in accordance with the manufacturer's instructions for each particular substrate condition and as specified.

Provide localized treatment of water spots, stains and markings to prevent bleed through.

Provide barrier coats over incompatible primers or remove and reprime as required. Notify Architect in writing of problems anticipated with using the specified finish-coat material with substrates primed by others.

Ferrous Metals: Clean non-galvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with recommendations of the Steel Structures Painting Council.

Touch-up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by the paint manufacturer, and touch up with the same primer as the shop coat.

MATERIALS PREPARATION:

Mix and prepare painting materials in accordance with manufacturer's directions.

Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.

Stir materials before application to produce a mixture of uniform density, and stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.

Use only thinners approved by the paint manufacturer, and only within recommended limits.

Mix adequate quantities of paint and stain to completely finish each area to be surfaced to avoid variation in colors or tints.

Tinting: Tint each undercoat a lighter shade to facilitate identification of each coat where multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

PAINT PREPARATION:

General: Mix and prepare materials as per manufacturer's recommendations as approved by Architect. Store materials not in actual use in tightly covered containers. Maintain containers used in storage, mixing and application in clean condition, free of foreign material and residue.

Stirring: Store all materials before application to produce mixture of uniform density, and as required during application. do not stir into material and film which may form on the surface. Remove film and, if necessary, strain material before using.

APPLICATION:

General: Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.

Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.

Spray Application: Wherever spray application is used, apply each coat to provide the equivalent hiding of brush-applied coats. Do not double back with spray equipment for the purpose of building up film thickness of two coats in one pass.

Paint colors, surface treatments, and finishes are indicated in "schedules."

Provide finish coats that are compatible with primers used.

The number of coats and film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce an even smooth surface in accordance with the manufacturer's directions.

Apply additional coats when undercoats, stains or other conditions show through final coat of paint, until paint film is of uniform finish, color and appearance. Give special attention to insure that surfaces, including edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.

The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, covers for finned tube radiation, grilles, and similar components are in place. Extend coatings in these areas as required to maintain the system integrity and provide desired protection.

Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently-fixed equipment or furniture with prime coat only before final installation of equipment.

Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint.

Paint back sides of access panels, and removable or hinged covers to match exposed surfaces.

Sand lightly between each succeeding enamel or varnish coat.

Omit primer on metal surfaces which have been shop-primed and touch-up painted.

Scheduling Painting: Apply first-coat material to surfaces that have been cleaned, pre-treated or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

Allow sufficient time between successive coatings to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

Minimum Coating Thickness: Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.

Electrical items to be painted include but are not limited to:

Conduit and fittings (interior).
Panel box covers.

Prime Coats: Before application of finish coats, apply a prime coat of material as recommended by the manufacturer to material that is required to be painted or finished and has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to assure a finish coat with no burn through or other defects due to insufficient sealing.

Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness or other surface imperfections will not be acceptable.

Completed Work: Match approved samples for color, texture and coverage. Remove, refinish or repaint work not in compliance with specified requirements.

FIELD QUALITY CONTROL

The owner reserves the right to invoke the following test procedure at any time and as often as the owner deems necessary during the period when paint is being applied:

The owner will engage the services of an independent testing laboratory to sample the paint material being used. Samples of material delivered to the project will be taken, identified, sealed, and certified in the presence of the Contractor.

The testing laboratory will perform appropriate tests for the following characteristics as required by the Owner:

Quantitative materials analysis.
Abrasion resistance.
Apparent reflectivity.
Flexibility.
Washability.
Absorption.
Accelerated weathering.
Dry opacity.
Accelerated yellowness.
Recoating.
Skinning.
Color retention.

Alkali and mildew resistance.

If test results show material being used does not comply with specified requirements, the Contractor may be directed to stop painting, remove noncomplying paint, pay for testing, repaint surfaces coated with rejected paint, from previously painted surfaces if, upon repainting with specified paint, the two coatings are incompatible.

CLEANING

Cleanup: At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.

Upon completion of painting, clean glass and paint-spattered surfaces. Remove spattered paint and washing and scraping, using care not to scratch or damage adjacent finished surfaces.

Protection: Protect work of other trades, whether to be painted or not, against damage by painting. Correct any damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.

Provide "Wet Paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.

At completion of work of other trades, touch-up and restore all damaged or defaced painted surfaces.

EXTRA STOCK:

Amount: On completion of the Work, deliver to owner extra stock amounting to 1% of each color, type and gloss of paint used in the work.

Packaging: Tightly seal each container and clearly label with contents and location where applied in the work.

INTERIOR PAINT SCHEDULE

General: Provide the following paint systems for the various substrates, as indicated.

Gypsum Board:

Lusterless (Eggshell) Emulsion Finish: 3 coats.

Primer: Latex-Based Interior White Primer

First Coat: Latex-Based Interior Eggshell Paint

Finish Coat: Latex-Based Interior Eggshell Paint

Ferrous Metal:

Semigloss Enamel Finish: 2 coats over primer with total dry film thickness not less than 2.5 mils.

Primer: Synthetic Rust-Inhibiting Primer (FS TT-P-664).

Undercoat: Interior Enamel Undercoat (FS TT-E-543).

Finish Coat: Interior Semigloss Odorless Alkyd Enamel (FS TT-E-509).