Specifications

WRC LANDER PHARMACY

Lander, Wyoming

Project #

025158.00

September 26th, 2025

2 West 1st Street, Suite 201, Duluth, Minnesota 55802
tel (218) 727-2626 fax (218) 722-7467

dsgw.com

SECTION 00 01 01

PROJECT MANUAL TITLE AND REGISTRATION SHEET

WRC LANDER PHARMACY

DATE: SEPTEMBER 26th, 2025

PROJECT NO.: 25158.00

OWNER
NORTHERN ARAPAHO BUSINESS COUNCIL
PO Box 396
Ft. Washakie, WY 82514
(307) 332-6120 phone

ARCHITECT
DSGW ARCHITECTS
2 West First Street, Suite 201
Duluth, MN 55802
(218) 727-2626 phone

MECHANICAL / ELECTRICAL ENGINEERS
DESIGN-BUILD

I hereby certify that these Drawings and Specifications were prepared by me or under by direct supervision and that I am a duly registered Architect under the laws of the State of Wyoming.

Steve Knutson

END OF SECTION

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WRC LANDER PHARMACY
LANDER, WYOMING

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ADVERTISEMENT FOR BIDS

WRC LANDER PHARMACY
LANDER, WYOMING

Applicants are required to submit an original proposal and five (5) copies in an envelope clearly marked "WRC LANDER PHARMACY". Each page of the proposal must clearly identify what company the proposal is from. Proposals will be accepted October 24th, 2025, until **2:00 p.m,** in either of the following forms:

1. ***Hand Delivered***:
   Attn: Aaron Brannan
   511 N 12th Street East
   Riverton, WY 82501

2. ***First Class Mail:***
   Attn: Aaron Brannan
   511 N 12th Street East
   Riverton, WY 82501

NOTE: Companies submitting proposals by First Class Mail should allow sufficient time for delivery to ensure receipt by the date/time as specified above. Proposals received after the deadline will be returned to the applicant unopened and will not be accepted.

Bid Documents (plans and specifications) will only be available electronically beginning September 30th, 2025. Free access via ShareFile may be obtained by contacting the Architect: DSGW Architects, Inc., 2 West 1st Street, Suite 201, Duluth, MN 55802, or by phone (218) 727-2626.

Bidding Questions Clarifications and Substitution requests are due to DSGW by end of business on October 17th , 2025. Final Scheduled Addenda issuance is planned for October 22nd, 2025. All questions must be submitted electronically to drowan@dsgw.com email subject should clearly indicate Lander Pharmacy Bid Clarification Question.

No Bidder shall modify, withdraw, or cancel their Bid or any part thereof for thirty (30) days after the time designated for the receipt of bids. The Owner reserves the right to reject any and all proposals or bids and to waive any defects, irregularities or information in any proposal or bid, and to award the contracts to other than the lowest bidder, if in their discretion the interests of the project will be best served thereby.

All bids shall be accompanied by a certified check or bid bond in the amount of five (5) percent of the amount of the gross bid payable to the Northern Arapaho Tribe, as liquidated damages for breach of contract if the bidder refuses or neglects to enter into the contract as per his bid.

Performance/Payment Bonds will be required for selected bidder.

Project is a tax-exempt entity; no sales tax shall be included in the contractors' bid amounts. The Owner will furnish the Low Bidders with a letter describing the tax-exempt status and procedures to be followed regarding sales tax exemption.

Pre Bid access to the existing facility can be coordinated with Aaron Brannan. All bidders are recommended to visit the site. Contact Aaron via email at aaron.brannan@windrivercares.com. Site visits can be accommodated during regular business hours 8am to 5pm M-F.

END OF SECTION

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

PART I GENERAL

1.01 INSTRUCTIONS TO BIDDERS

A. The "Instructions to Bidders", AIA Document No. A701, copyright 2018 Edition, as published by the American Institute of Architects, Article 1 thru 8, inclusive, are hereby made a part of the Contract Documents to the same extent as if bound herein and as supplemented hereinafter. A copy of A701 is on file in the Architect's office.

B. The "Supplementary Instructions to Bidders", Section 00 22 13, shall modify, replace or define portions of AIA A701, Instructions to Bidders.

END OF SECTION

SECTION 00 22 13

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

THE FOLLOWING SUPPLEMENTARY INSTRUCTIONS TO BIDDERS SHALL MODIFY, REPLACE, OR DEFINE PORTIONS OF THE A.I.A. INSTRUCTIONS TO BIDDERS, A701, 2007 EDITION. THOSE PORTIONS OF THE A.I.A. INSTRUCTIONS TO BIDDERS, A701, WHICH ARE NOT ALTERED BY THESE SUPPLEMENTARY GENERAL CONDITIONS SHALL REMAIN IN EFFECT AS PUBLISHED.

1. ARTICLE 1 - DEFINITIONS

ADD the following Paragraph:

1.10 The word "product" herein means any material, equipment, assembly, manufacturer, brand, trade name, element, item or similar description as applicable. Wherever a product is named on the Drawings or in the Specifications, the phrase "or acceptable substitute in the opinion of the Architect" shall be implied throughout the Specification, whether specifically noted or not.

2. ARTICLE 3 - BIDDING DOCUMENTS

ADD paragraph 3.2.4 as follows:

3.2.4 It is the Bidder's (and Contractor's) responsibility to bring all discrepancies, ambiguities, omissions, for matters in need of clarification to the attention of the Architects or interpretation and decision.

ADD the following Subparagraphs after paragraph 3.3.1:

3.3.1.1 Any product or manufacturer used as basis of the Specifications shall generally set the criteria. It shall be expressly understood that any other product or manufacturer listed in the Specification or any addenda as acceptable will be acceptable provided they fully comply with the requirements and match the basic and essential criteria of the product used for base Specification, including the level of workmanship quality, as determined by the Architect. For final acceptance for use in the work, the Architect shall have the right to accept or reject proposed deviations. Should a proposed product be unable to meet requirements, the product shall not be used.

3.3.1.2 Where two or more products are shown or specified, the Bidder and Contractor has his option of which to use, provided the product proposed will meet all requirements of the Specifications and the design criteria. The right is reserved by the Architect to accept or reject proposed deviations in design, function, construction or similar differences that will affect design intent or quality, or,

3.3.1.3 For any same or like product for this Project, only one brand, manufacturer, source or type shall be used, as approved by Architect.

3.3.1.4 For products specified or shown by describing proprietary items, model numbers, catalog numbers, manufacturers, trade names or similar reference, each Bidder obligates himself to submit bids and accept awards of a contract based upon the use of such products. The reference is intended to establish the measure for the quality, which has been determined as requisite and necessary for the Project.

REVISE paragraph 3.3.2 as follows:

3.3.2 No substitutions will be considered prior to receipt of bids unless written request for approval has been received by the Architect at least three (3) business days prior to the Date for receipt of Bids...

ADD the following at the end of paragraph 3.3.3:

...<u>If a written reply is required, the Contractor shall furnish two (2) copies of the request and a self-addressed, stamped envelope</u>. EMAILS & FAX REQUESTS WILL BE ACCEPTED.

ADD paragraph 3.3.5 as follows:

3.3.5 The supplier or manufacturer providing any acceptable product shall bear the cost of any required modifications to spaces, services, utilities and other features as the result of the use of his product, including but not limited to, larger capacity mechanical or electrical service, devices or utilities resulting from acceptance of the product for bidding purposes, as well as to pipes, conduits, ducts, and controls for conveying, distributing, and controlling those services or utilities; as well as insulation, wrapping, coatings, or other integral features of the lines or items conveying those lines, and additional costs of the products installation.

3. ARTICLE 4 - BIDDING PROCEDURES

4.1 FORM AND STYLE OF BIDS

DELETE paragraphs 4.1.1 and ADD the following:

4.1.1 Bids shall be submitted on forms identical to the form included in the Bidding Documents, photo copies will be acceptable. The Bidder shall submit two (2) copies of the bid Form with his Bid. DO NOT REMOVE BID FORMS FROM BIDDING DOCUMENTS.

4.2 BID SECURITY

ADD the following paragraph:

4.2.4 Bid security shall be 5% of the bid amount. Bid Bond amount shall be listed in the space provided on the Bid Form.

4.4 MODIFICATION OR WITHDRAWAL OF BID

ADD the following to paragraph 4.4.1: “No bid shall be withdrawn for a period of 60 days from the date of receipt of bids.”

4. ARTICLE 6 - POST BID INFORMATION

ADD the following paragraph:

6.4 TIME AND COMPLETION

6.4.1 Each Bidder agrees to commence work on or before a date to be specified in a written "Notice to Proceed" signed by the Owner, and to substantially complete the work within the number of consecutive calendar days stated on the Bid Form.

5. ARTICLE 7 - PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

7.1 BOND REQUIREMENTS

ADD the following paragraph:

7.1.4 Performance/Payment Bonds are required.

6. ADDITIONAL LAWS AND REGULATIONS

A. The Bidder's attention is directed to the fact that all applicable State laws, County and 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 though written.

B. This project is sales tax exempt.

END OF SECTION

SECTION 00 31 00
AVAILABLE PROJECT INFORMATION

PART 1 GENERAL

1.01 PRE-BID WALKTHOUGH ATTENDEES

A. Roster of attendees at the Pre-Bid Walkthrough, as appended to this section. TBD

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 00 40 00

BID FORMS - INSTRUCTIONS

Loose copies or photo copies of the bid form following this Section shall be used by the bidder in submitting his bid (do not remove the attached forms from this document).

The Bidder shall complete all the following items or the bid may be rejected. (See Sections 00 21 13 and 00 22 13 for additional requirements).

1. Date the Bid.
2. Clearly state the amount of the Base Bid.
3. Acknowledge receipt of all Addenda.
4. Declare scheduled days to complete project.
5. Sign and indicate current mailing address, telephone and telefax numbers.
6. Contractor is allowed to provide Voluntary Alternates.
7. Project is tax exempt.
8. Contractor shall provide performance bond as required.
9. Demolition disposal by owner (debris and container by owner)

END OF SECTION

SECTION 00 41 00

BID FORM

THE PROJECT AND THE PARTIES

1.01 TO:

A. Wind River Cares – Lander Pharmacy

1.02 FOR:

A. WRC Lander Pharmacy

1.03 DATE: _____ (Bidder to enter date)

1.04 SUBMITTED BY: (Bidder to enter name and address)

A. Bidder's Full Name _____

1. Address _____

2. City, State, Zip_____

1.05 BASE BID

A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by DSGW Architects for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:

_____ Dollars

($_____), in lawful money of the United States of America.

1.06 ACCEPTANCE

A. This offer shall be open to acceptance and is irrevocable for 60 days from the bid closing date.

B. If this bid is accepted by Owner within the time period stated above, we will:
   1. Execute the Agreement within ten days of receipt of Notice of Award.
   2. Furnish the required bonds within ten days of receipt of Notice of Award.
   3. Commence work within seven days after written Notice to Proceed of this bid.

C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Owner by reason of our failure.

D. In the event our bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to

Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

E. Project is Sales Tax exempt.

1.07 CONTRACT TIME

A. Bidder agrees to commence the work after a "Notice to Proceed" has been issued by the Owner and to substantially complete the work within _____ consecutive calendar days.

1.08 ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
   1. Addendum # _____ Dated _____.
   2. Addendum # _____ Dated _____.

1.09 OWNER'S RIGHT TO REJECT

A. In submitting this Bid, the Bidder understands that the right is reserved by the Owner to reject any and all Bids, and to waive any informalities and irregularities in the Bids received and to accept the Bid which, in the Owner's judgement, is in the Owner's own best interests.

1.10 BID FORM SIGNATURE(S)

A. The Corporate Seal of

_____

(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

_____

(Authorized signing officer, Title)

(Seal)

_____

(Authorized signing officer, Title)

END OF BID FORM

SECTION 00 72 00

GENERAL CONDITIONS

FORM OF GENERAL CONDITIONS

1.01 THE GENERAL CONDITIONS APPLICABLE TO THIS CONTRACT IS INCLUDED BY REFERENCE. A COPY OF THE GENERAL CONDITIONS IS ON FILE AT THE OFFICE OF THE ARCHITECT FOR THOSE WISHING TO VIEW IT.

RELATED REQUIREMENTS

2.01 AIA DOCUMENT A201, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, 2007 EDITION, IS THE GENERAL CONDITIONS BETWEEN THE OWNER AND CONTRACTOR.

SUPPLEMENTARY CONDITIONS

3.01 REFER TO DOCUMENT 00 73 00 - SUPPLEMENTARY CONDITIONS FOR AMENDMENTS TO THESE GENERAL CONDITIONS.

END OF SECTION

SECTION 00 73 00

SUPPLEMENTARY CONDITIONS

PART 1 GENERAL

1.01 SUMMARY

1.02 THESE SUPPLEMENTARY CONDITIONS AMEND AND SUPPLEMENT THE GENERAL CONDITIONS DEFINED IN DOCUMENT 00 72 00 - GENERAL CONDITIONS AND OTHER PROVISIONS OF THE CONTRACT DOCUMENTS AS INDICATED BELOW. PROVISIONS THAT ARE NOT SO AMENDED OR SUPPLEMENTED REMAIN IN FULL FORCE AND EFFECT.

1.03 THE TERMS USED IN THESE SUPPLEMENTARY CONDITIONS THAT ARE DEFINED IN THE GENERAL CONDITIONS HAVE THE MEANINGS ASSIGNED TO THEM IN THE GENERAL CONDITIONS.

1.04 MODIFICATIONS TO GENERAL CONDITIONS

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

MODIFICATIONS TO AIA A201

4.01 ARTICLE 1.1.1 - THE CONTRACT DOCUMENTS

A. Add the following sentence to the end of Subparagraph 1.1.1:
   1. The Contract Documents executed or identified in accordance with Subparagraph 1.5.1 shall prevail in case of an inconsistency with subsequent versions made through manipulatable electronic operations involving computers.

4.02 ARTICLE 1.2 - CORRELATION AND INTENT OF CONTRACT DOCUMENTS

A. Add the following Subparagraph 1.2.4 to Paragraph 1.2:

B. 1.2.4: If there is an inconsistency in the quality or quantity of Work required by the Contract Documents, the greater quality or quantity of Work indicated shall be provided in accordance with the Architect's interpretation, and no change in the Contract Sum will be permitted.

4.03 ARTICLE 1.6 - OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

A. Add the following Subparagraph 1.6.2 to Paragraph 1.6:
   1. 1.6.2Contractor's Use of Instruments of Service in Electronic Form.
   2. 1.6.2.1The Architect may, with the concurrence of the Owner, furnish to the Contractor versions of instruments of Service in electronic form. The Contract Documents executed or identified in accordance with Subparagraph 1.5.1 shall prevail in case of an inconsistency with subsequent versions made through manipulatable electronic operations involving computers.
   3. 1.6.2.2The Contractor shall not transfer or reuse instruments of Service in electronic or machine readable form without prior written consent of the Architect.

4.04 ARTICLE 4.2 - ARCHITECTS ADMINISTRATION OF THE CONTRACT

A. Add clause 4.2.2.1 to Subparagraph 4.2.2:
   1. 4.2.2.1The Contractor shall reimburse the Owner for compensation to the Architect for additional site visits made necessary by the fault, neglect or request of the Contractor.

4.05 ARTICLE 11.1.2 - CONTRACTORS LIABILITY INSURANCE

A. Add the following Clauses 11.1.2.1 through 11.1.2.4 to Subparagraph 11.1.2:
   1. 11.1.2.1: The limits for Worker's Compensation and Employers' Liability insurance shall meet statutory limits mandated by State and Federal Laws. If (1) limits in excess of those required by statute are to be provided or (2) the employer is not statutorily bound to obtain such insurance coverage or (3) additional coverages are required, additional coverages and limits for such insurance shall be as follows:

2. 11.1.2.2: The limits for Commercial General Liability insurance including coverage for Premises-Operations, Independent Contractors' Protective, Products -Completed Operations, Contractual Liability, Personal Injury and Broad Form Property Damage (including coverage for Explosion, Collapse, and Underground Hazards) shall be as follows:
    a. $1,000,000 Each Occurrence
    b. $1,000,000 General Aggregate
    c. $1,000,000 Personal and Advertising Injury
    d. $1,000,000 Products-Completed Operations Aggregate
    e. .1: The policy shall be endorsed to have the General Aggregate apply to this Project only.
    f. .2: The Contractual Liability Insurance shall include coverage sufficient to meet the obligations in AIA Document A201-1997 under Paragraph 3.18.
    g. .3: Products and Completed Operations Insurance shall be maintained for a period of at least (1) year(s) after either 90 days following Substantial Completion or final payment whichever is earlier.
3. 11.1.2.3: Automobile Liability insurance (owned, non-owned and hired vehicles) for bodily injury and property damage shall be as follows:
    a. $1,000,000 Each Accident
4. 11.1.2.4: Umbrella or Excess Liability coverage shall be as follows:
    a. $1,000,000 Each Occurrence

4.06 ARTICLE 11.1.3 - CONTRACTORS LIABILITY INSURANCE

A. Add the following sentence to Subparagraph 11.1.3:
    1. If this insurance is written on a Commercial General Liability policy form, the certificates shall be ACORD form 25-S, completed and supplemented in accordance with AIA Document G715, Instruction Sheet and Supplemental Attachment for ACORD Certificate of Insurance 25-S.

4.07 ARTICLE 11.5 - PERFORMANCE BOND AND PAYMENT BOND

A. Delete Subparagraph 11.5.1 and substitute the following:
    1. 11.5.1: The Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds may be obtained through the Contractor's usual source and the cost thereof shall be included in the Contract Sum. The amount of each bond shall be equal to 100 percent of the Contract Sum.
    2. 11.5.1.1: The Contractor shall deliver the required bonds to the Owner not later than three days following the date the Agreement is entered into, or if the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished.
    3. 11.5.1.2: The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

4.08 GOVERNING PRACTICES

Add Reservation TERO Information as appended to this section.

Contractor acknowledges TERO and reservation requirements.

Contractor must comply with requirements of the Tribal Reservation.

END OF DOCUMENT

TITLE X
TRIBAL EMPLOYMENT RIGHTS CODE

CHAPTER 1 GENERAL PROVISIONS

Section 10-1-1 Name and Purpose

(1) Name. This code shall be known as the "Shoshone and Arapaho Employment Rights Code."

(2) Purpose. The purpose of this code is to assist in and require the fair employment of Indians on the Wind River Indian Reservation and to prevent discrimination against Indians in the employment practices of reservation employers.

Section 10-1-2 Definition of Important Terms and Words

(1) "Chairman" shall mean the chairman of the Shoshone and Arapaho Employment Rights Commission.

(2) "Commission" shall mean the Shoshone and Arapaho Employment Rights Commission which, until changed by the Tribal Business Council, will be comprised of the Tribal Business Council.

(3) "Council" shall mean the Business Council of the Shoshone and Arapaho Tribes.

(4) "Commissioner" shall mean a commissioner of the Shoshone and Arapaho Employment Rights Commission.

(5) "EEOC" shall mean the Equal Employment Opportunity Commission of the United States.

(6) "Employer" shall mean any person, company, contractor, subcontractor or other entity located or engaged in work on the reservation, employing two (2) or more persons. The term "Employer" excludes federal, state or county government agencies, but includes agencies, contractors, and subcontractors of all other agencies.

(7) "Engaged in work on the reservation." An employer is "engaged in work on the reservation" if, during any portion of a business enterprise or specific project, contract or subcontract, he or any of his employees spends a majority of his time performing work within the exterior boundaries of the reservation on a continuing basis.

(8) "HRC" shall mean Human Rights Commission of the State of Wyoming.

(9) "Indian" shall mean any person recognized as an Indian by the United States pursuant to its trust responsibility to American Indians, or recognized by the Shoshone and Arapaho Tribes as such.

(10) "Indian-owned business" shall mean a business entity of which at least eighty-five percent (85%) is owned by Indians. The percentage limitations used in determining whether an entity is Indian-owned for applicable Shoshone and Arapaho Indian preference purposes shall be reduced to fifty-one percent (51%) for federal programs which require a fifty-one percent (51%) limitation.

(11) "Joint ventures" shall mean an association of two (2) or more persons or firms to carry out a single or limited number of business enterprises for profit, for which purpose they combine their property, money, effects, skills and knowledge.

(12) "Located on the reservation." An employer is "located on the reservation" if, during any portion of a business enterprise or specific project, contract or subcontract he maintains a temporary or permanent office or facility within the exterior boundaries of the reservation. "Near the reservation" means if a person lives within reasonable daily commuting distance of the reservation.

(13) "OFCCP" shall mean the Office of Federal Contract Compliance Programs of the United States.

(14) "Reservation" shall mean the Wind River Indian Reservation, Wyoming (State).

(15) "Tribal member; member" shall mean any person who is a duly enrolled member of the Shoshone and Arapaho Indian Tribe, unless the context clearly indicates otherwise.

(16) "Tribe" shall mean the Shoshone and Arapaho Indian Tribes, or a tribe or entity federally recognized as defined by the Indian Self-Determination Act, Title 25, U.S.C.S., 4506(b).

Section 10-1-3 Employment Rights Commission

(1) Duties of the Commission. The commission shall administer the Employment Rights Program of the Shoshone and Arapaho Indian Tribes in accordance with this code.

(2) Powers of the Commission. The Commission shall have the power:

a) To hire and fire Commission employees and to pay salaries pursuant to a salary schedule established by the council;

b) To establish rules and regulations governing all activities of the Commission;

c) To expend funds appropriated by the Council for the Shoshone and Arapaho Tribal Rights Program;

d) To obtain funding from federal, state or other sources to supplement Council appropriations;

e) To establish numerical hiring goals and timetables specifying the minimum number of Indians an employer must hire by craft or skill level;

f) To require employers to establish or participate in job training programs as the Commission deems necessary to increase the pool of Indians eligible for employment on the reservation, not in a manner that would result in any increased costs to any federal programs through which funding is obtained;

g) To establish and administer a tribal hiring hall and require employers to use it;

h) To prohibit employers from using job qualifications criteria or personnel requirements that may bar Indians from employment unless such criteria or requirements are required by business necessity. Commission regulations may adopt EEOC guidelines or may adopt additional requirements to eliminate employment barriers unique to Indians and the reservation;

I) To enter into agreements with the unions to insure union compliance with this code;

j) To require employers to give preference to tribal and other Indian-owned businesses in the award of contracts and subcontracts;

k) To establish counseling programs to assist Indians in obtaining and retaining employment;

l) To hold hearings and to subpoena witnesses and documents in accordance with this code;

m) To require employers to submit reports and take all action deemed necessary by the Commission for the fair and vigorous implementation of this code;

n) To enter into cooperative agreements with federal employment rights agencies such as EEOC and OFCCP to eliminate discrimination against Indians both on and off the reservation; and

o) To take such other actions as are necessary to achieve the purposes and objectives of the Shoshone and Arapaho Employment Rights Program established in this code.

In exercising the above specified power, the Commission shall have the discretion to implement certain powers only or to apply one or more such powers to limited classes or number of employers.

Section 10-1-4 Employment Rights Program

(1) Coverage. All employers are required to give preference to Shoshone, Arapaho and other local Indians in hiring, promotion, training, and all other aspects of employment, contracting or subcontracting, and must comply with this code and the rules, regulations and orders of the Commission. Local Indians shall be defined as those Indians residing within the exterior boundaries of the Wind River Reservation.

The above requirements shall apply to facilities of an employer, including a subcontractor located or engaged in work on the reservation.

(2) Contractors and Subcontractors. The Indian preference requirements contained in this code shall be binding on all contractors and subcontractors of employers, regardless of tier, and shall be deemed a part of all contract and subcontract specifications. The employer shall be subject to penalties provided herein for violation of this code if the contractor or subcontractor fails to comply.

(3) Minimum Numerical Goals and Timetables for Indian Employment. The Commission may establish the minimum number of Indians each employer must employ on his workforce during any year that he or any of his employees are located or engaged in work on the reservation. Numerical goals may be set for each craft, skill, job classification, etc., used by the employer and shall include, but not be limited to, administrative, supervisor and professional categories. The goals shall be expressed in terms of man hours or Indian employment as a percentage of the total man hours worked by the employer*s workforce in the job classification involved.

For both new and existing employers, the goals shall be reviewed by the Commission at least annually and shall be revised as necessary to reflect changes in the number of Indians available or changes in employer hiring plans. Each employer shall submit a monthly report to the Commission on a form provided by the Commission, indicating the number of Indians in his workforce, how close he is to meeting his goals, all persons hired or fired during the month, the job positions involved, and other information required by the Commission.

(4) Training. Employers may be required by the Commission to participate in training programs to assist Indians to become qualified in the various job classifications used by

the employer. The ratio of Indian trainees to fully qualified workers shall be set by the Commission after consultation with the employer.

(5) Job Qualifications and Personnel Requirements. Employers are prohibited from using job qualification criteria or personnel requirements which bar Indians from employment, unless such criteria or requirements are required by business necessity.

(6) Tribal Hiring Hall. The Commission shall establish and administer a tribal hiring hall to assist the Commission and employers in placing Indians in job positions. An employer may recruit and hire workers from whatever sources are available to him and by whatever process he chooses, as long as he complies with this code and Indians job preference regulations and agreements pertaining to his operation.

(7) Counseling and Support Programs. The Commission will establish counseling and other support programs to assist Indians to obtain and retain employment. Every employer shall be required to cooperate with the Commission regarding such counseling and support programs.

(8) Preference in Contracting and Subcontracting. Employers shall give preference in the award of contacts or subcontracts to tribally owned and Indian-owned businesses which shall be supplied to the employers for their use.

(9) Lay-offs. In all lay-offs and reductions in force, employers shall maintain required ratios of Indian employees.

(10) Promotion. Every employer shall, in accordance with required ratios, give Indians preferential consideration for all promotion opportunities and shall encourage Indians to seek such opportunities.

(11) Summer Students. Employers shall give Indian students preferential consideration for summer student employment. The employer shall make every effort to promote after-school, summer and vacation employment for Indian students.

(12) Burden of Proof. In any hearing before the Commission where the issue is compliance by an employer of any of the requirements and provisions of the foregoing subsections of Section 4, the burden of proof shall be on the employer rather than on the employee or other complainant to show said compliance.

Section 10-1-5 Compliance by Unions

Every union with a collective bargain agreement with an employer must file a written agreement stating that the union will comply with this code and the rules, regulations and orders of the Commission. Until such agreement is filed with the Commission, the employer may not commence work on the reservation.

(1) Contents of Union Agreements. Every union agreement with an employer or filed with the Commission must provide:

a) Indian Preference. The union will give preference to Indians in job referrals regardless of which union referral list they are on;

b) Cooperation with the Commission. The union will cooperate with the Commission in all respects and assist in the compliance with, and enforcement of this code and related regulations and agreements;

c) Registration. The union will establish a mechanism allowing Indians to register for job referrals lists by telephone or mail;

d) Training Programs. The union will establish a journeyman upgrade and advanced apprenticeship program; and

e) Temporary Work Permits. The union will grant temporary work permits to Indians who do not wish to join the union.

(2) Model Union Agreement. The Commission will provide a model union agreement for use by all unions who have collective bargaining agreements with any employer.

(3) Recognition of Unions. Nothing herein or any activity by the Commission authorized hereby shall constitute official tribal recognition of any union or tribal endorsement of any union activities on the reservation.

(4) Burden of Proof. In any hearing before the Commission where the issue is compliance by an employer of any of the requirements and provisions of the foregoing subsections of Section 4, the burden of proof shall be on the employer rather than on the employee or other complainant to show said compliance.

Section 10-1-6 Hearings

(1) Notice. If a hearing is requested by the Commission, an individual, an employer, or union pursuant to this section, a written notice of hearing shall be given to all concerned parties stating the nature of the hearing and the evidence to be presented. The notice shall advise such parties of their right to be present at the hearing, to present testimony of witnesses and other evidence, and to be represented by counsel at their own expense.

(2) Commission Complaint Procedure. If the Commission has cause to believe that an employer, contractor, subcontractor, or union has failed to comply with this code or any rules, regulations or orders of the Commission, it may file a complaint and notify such party of the alleged violations. The Commission will attempt to achieve an informal settlement of the matter,

but if an informal settlement cannot be achieved, the Commission may request a hearing upon the matter pursuant to Section 6.1.

If any employer fires, lays off, or penalizes in any manner, any Indian employee for utilizing the individual complaint procedure, or any other right provided herein, the employer shall be subject to the penalties provided in Section 7 of this code.

(4) Employer or Union Complaint Procedure. If an employer or union believes that any provision of this code or any rule, regulation or order of the Commission is illegal or erroneous, it may file a complaint with the Commission specifying the alleged illegality or error. Upon receipt of the complaint, the Commission shall investigate and attempt to achieve an informal settlement of the matter. If an informal settlement cannot be achieved, the employer, union or Commission may request a hearing upon the matter pursuant to Section 6.1.

(5) Hearing Procedure. Hearings shall be governed by the following rules or procedure:

a) All parties may present testimony of witnesses and other evidence and may be represented by counsel at their expense;

b) The Commission may have the advice and assistance at the hearing of counsel provided by the tribe;

c) The chairman of the Commission or the vice-chairman shall preside and the Commission shall proceed to ascertain the facts in a reasonable and orderly fashion;

d) The hearing may be adjourned, postponed and continued at the discretion of the Commission;

e) At the final close of the hearings, the Commission may take immediate action or take the matter under advisement; and

f) The Commission shall notify all parties thirty (30) days after the last hearing of its decision in the matter.

Section 10-1-7 Penalties for Violation

Any employer, contractor, subcontractor or union who violates this code or rules, regulation or orders of the Commission shall be subject to penalties for such violations, including, but not limited to:

a) Denial of right to commence or continue business inside the reservation;

b) Suspension of operations inside the reservation;

c) Payment of back pay and damages to compensate any injured party;

d) An order to summarily remove employees hired in violation of this code or rules, regulations and orders of the Commission;

e) Imposition of monetary civil penalties;

f) Prohibition from engaging in future operations on the reservation;

g) An order requiring employment, promotion and training of Indians injured by the violation;

h) An order requiring changes in procedures and policies necessary to eliminate the violations; and

I) An order making any other provision deemed by the Commission necessary to alleviate, eliminate or compensate for any violation.

The maximum penalty which may be imposed is $500.00 for each violation. Each day during which a violation exists shall constitute a separate violation.

Section 10-1-8 Appeals

Any party to a hearing shall have the right to appeal any decision of the Commission to the Shoshone and Arapaho Tribal Court pursuant to the Law and Order Code of the Shoshone and Arapaho Indian Tribes.

Section 10-1-9 Publication of Code

The Commission shall notify all employers of this code and their obligations to comply. All bid announcements issued by any tribal, federal, state or other private or public entity shall contain a statement that the successful bidder will be obligated to comply with this code and all rules, regulations and orders of the Commission.

All Tribal agencies responsible for issuing business permits for reservation activities or otherwise engaged in activities involving contact with prospective employers on the reservation shall be responsible for advising such prospective employers of their obligations under this code and rules, regulations and orders of the Commission.

The Commission shall send a copy of this code to every employer operating on the reservation.

Section 10-1-10 Compliance Plan

As of the effective date of this code, no new employer may commence work on the reservation until it has consulted with the Commission for meeting obligations under this code.

Section 10-1-11 Reporting and On-Site Inspection

Employers shall submit reports and other information requested by the Commission. The Commission and its representative shall have the right to make on-site inspections during regular working hours in order to monitor any employer*s compliance with this code and rules, regulations and orders of the Commission. The Commission shall have the right to inspect and

copy all relevant records of any employer, of any signatory union or subcontractor and shall have right to speak to workers and conduct investigations on job sites.

Section 10-1-12 Severability

If any provision of this code or its application to any person or circumstances is held invalid, the remainder of the code or the application of the provision to other persons or circumstances is not affected.

Section 10-1-13 Rules and Regulations

The purpose of this code is to establish the Commission and general requirements, policies and guidelines to govern it and its work. When the Commission is appointed and organized, it shall with all reasonable speed adopt, with the final approval of the Council, more detailed rules, regulations, policies and guidelines to fully implement this code and the purposes and responsibilities of the Commission.

Section 10-1-14 Commission Funds

All funds from employer fees and other sources collected by the Commission, although under the management control of the Commission, shall be tribal funds subject to the final control and disposition by the council.

Section 10-1-15 Effective Date

This code shall be effective from the date of its approval by the Shoshone and Arapaho Joint Business Council.

CHAPTER 2 ESTABLISHMENT OF A SHOSHONE AND Arapaho TRIBAL EMPLOYMENT RIGHTS OFFICE (TERO)

Section 10-2-1 Office; Director

The Shoshone and Arapaho Tribes do hereby establish the Shoshone and Arapaho Tribal Employment Rights Office (hereinafter called “Office”) as an independent office of the tribe, reporting directly to the tribal chairmen. [Chairman?]

The Director of the Office shall be appointed by the tribal chairmen [chairman?] subject to the approval of the tribal council. The director shall have the authority to hire staff, expend funds appropriated by the tribal council, and to obtain and expend funds from federal, state or other sources to carry out the purposes of the office. The Office shall have the authority to issue rules, regulations, and guidelines to implement the employment rights requirements imposed by this code, to hold hearings, to subpoena witnesses and documents, to require employers to submit reports and to take such other actions as are necessary for the fair and vigorous implementation of this code.

Section 10-2-2 Indian Preference

All employers operating within the exterior boundaries of the Wind River Reservation are hereby required to give preference to Indians in hiring, promotion, training, and all other

aspects of employment, and in subcontracting. Said employers shall comply with the rules, regulations, and guidelines of the employment rights office that set out the specific obligations of the employer in regard to Indian preference.

Section 10-2-3 Agreement Regarding Indian Preference

Any covered employer who has a collective bargaining agreement with one or more unions shall obtain written agreement from said union(s) stating that the union shall comply with the Indian preference laws, rules, regulations, and guidelines of the Shoshone and Arapaho Tribes. Such agreement shall be subject to the approval of the employment rights office. Such agreement does not constitute official tribal recognition or sanction of any union.

Section 10-2-4 Sanctions

Any employer who fails to comply with the laws, rules, regulations, or guidelines on employment rights of the Shoshone and Arapaho Tribes or who fails to obtain the necessary agreements from its signatory unions shall be subject to sanctions which shall include, but are not limited to: denial of the right to commence business on the Wind River Reservation, civil fines, suspension of the employer*s operation, termination of the employer*s operation, denial of the right to conduct any further business on the Wind River Reservation, payment of back pay or other relief to correct any harm done to the aggrieved Indians, and to the summary removal of employees hired in violation of the Shoshone and Arapaho Tribes* employments rights requirements.

Sanctions shall be imposed by the Director, after allowing the employer an opportunity to present evidence showing why it does not violate the requirements or why it should not be sanctioned. An employer shall have the right to appeal to the Shoshone and Arapaho Tribal Court of Appeals decisions by the Director that imposes sanctions on him.

Section 10-2-5 Implementation

In implementing the requirements of this code, the Employment Rights Office is authorized to:

(1) Impose numerical hiring goals and timetables that specify the minimum number of Indians an employer must hire, by craft or skill level.

(2) Require covered employers to establish or participate in such training programs as the Office determines necessary in order to increase the pool of qualified Indians on the Wind River Reservation as quickly as possible.

(3) Establish, in conjunction with the Tribal Employment and Training Program, a tribal hiring hall and impose a requirement that no covered employer may hire a non-Indian until the tribal hiring hall has certified that no qualified Indian is available to fill the vacancy.

(4) Prohibit any covered employer from using qualification criteria or other personnel requirements that serve as barriers to Indian employment, unless the employer can demonstrate that such criteria or requirements are required by business necessity. In developing regulations to implement this requirement, the Office shall adopt the EEOC guidelines on these matters to the extent that they are appropriate. However, the Office shall have the right to impose

additional requirements, beyond those established by EEOC, in order to address employment barriers that are unique to Indians.

(5) To enter into agreement with unions to insure union compliance with this code.

(6) To require employers to give preference to the award of contracts and subcontracts to tribal and other Indian-owned firms and entities.

(7) To establish programs, in conjunction with other tribal and federal offices, to provide counseling and support to Indian workers to assist them to retain employment. Employers shall be required to participate in and/or cooperate with such support and counseling programs.

(8) Take such other actions as are necessary to achieve the purposes and objectives of this resolution. However, the implementation of any activities or requirements that constitute a significant new component to this program beyond those listed in subparagraphs (1) through (4) shall be subject to the prior approval of the Shoshone and Arapaho Joint Business Council. In implementing these components, the Office shall have the discretion to begin by implementing certain of these components or by applying all of the components to limited kinds of employer (e.g., construction, mining).

Whichever approach to phasing in the program the TERO decides to use, it shall develop at a gradual pace in order to insure a stable and effective program.

Section 10-2-6 Cooperation with Other Agency

The Office is authorized to enter into a cooperative relationship with federal employment rights agencies, such as EEOC and OFCCP, in order to eliminate discrimination against Indians on and off the Wind River Reservation.

Section 10-2-7 Fee

An employment rights fee, to raise revenue for the operation of the office, is hereby imposed as follows:

(1) Every covered construction contractor shall pay a one-time fee of two percent (**2**%) of the total amount of the contract.

(2) All business entities or employers doing business for profit within the exterior boundaries of the Wind River Reservation such as companies, contractors, subcontractors, vendors, and businesses shall pay a fee of **2%** of the gross contract or contracts. The fee shall be paid prior to commencing work or a prior arrangement for fee payment has been approved by the TERO Director.

Such fees shall be paid to the TERO Office and shall be placed in a special account to be used to meet the operating and investment costs of TERO per authorization of the Director and Commission. The Office shall be responsible for collecting said fees and is authorized to establish such rules and regulations as are necessary to insure a fair and timely fee collection process. This fee shall not apply to educational, health, government, tribal, or non-profit employers. An employer or contractor who fails to pay the required fee shall be subject to the sanctions provided for in paragraph 4 of this code. The Office is authorized to develop a program to rebate some or all of the fees paid by an employer if that employer is found to be in compliance

with the requirements imposed by this resolution and is making a substantial effort to employ, train, and promote Indians.

Section 10-2-8. Employment and Training Programs

The tribal employment and training program (CETA) and the BIA Employment Assistance Program shall devote such amount of their resources as is necessary to preparing Indians for the job opportunities to be opened up by the employment rights program. Also, the Tribal Employment and Training Program is hereby mandated to establish a construction worker trainee program and to obtain certification for that program from the Department of Labor. The directors of the Tribal Employment and Training Programs, the BIA Employment Assistance Program, and the tribal education program shall coordinate with the director of the Employment Rights Office in the development of their training plans.

Section 10-2-9 Financial Plan

There is hereby appropriated from the tribal treasury $10,000.00 for the first year of operation of the Office. In addition, the Tribal CETA Program shall make available to the Office up to five (5) public employment slots to pay the salaries of Office employees. Within six (6) months after the appointment of the Office director, he shall present to the tribal council a plan for the financing of the Office out of monies other than from the tribal treasury. The plan shall indicate the expected amount of revenue from the employment rights fees and other potential sources of funding for the Office, including but not limited to new funds or reallocations of existing funds from such sources as CETA, ONAP, EEOC, BIA Employment Assistance, HUD, and EDA.

Section 10-2-10 Retaliation by Employers

Any covered employer or union or person which retaliates against any worker, employer, union or other person or other entity because of this person or entity*s exercise of its rights under this code shall be subject to sanction by the TERO. Further, the TERO is authorized to issue a temporary injunction to prevent any harm caused by an employer, union or person*s retaliatory actions.

CHAPTER 3 INDIAN PREFERENCE POLICIES AND PROCEDURES ON THE WIND RIVER RESERVATION

Section 10-3-1 Indian Preference on the Reservation

Every entity engaged in on the Wind River Reservation shall give preference to firms certified by the Tribe under Chapter 4 of this Code in all contracts and subcontracts to be performed on the Reservation. An entity in such development may not enter into a contract or subcontract with a firm not so certified unless it has contacted every certified firm in the relevant field and has determined that there is no certified firm available that is technically qualified to perform the work required at a reasonable price. So long as a certified firm meets minimum threshold qualifications, no other firm may be selected for any contract or subcontract. If the entity determines that a certified firm lacks the qualifications to perform all the work required under a contract or subcontract, the entity shall make a good faith effort to divide the work required into small portions so that the certified firm can qualify for a portion of the work. As used in this section, the terms “contract and subcontract” apply to all contracts, including, but

not limited to, contract for supplies, services, and equipment, regardless of tier. An entity engaged in business development shall not be responsible for the compliance of all its contractors and subcontracts with this Code.

Section 10-3-2 Responsibility for Evaluation of Technical Qualifications and Reasonable Price

(1) Technical Qualifications. An entity engaged in business development shall have a discretion to determine technical qualifications. However, if the entity determines that all certified firms are not qualified, the entity must:

a) Interview the principles in all available certified firms to determine their knowledge and expertise in the area; provided that for certified firms that do not yet have an established record, the entity shall evaluate the basis of the individual qualifications of the principles in the firms, their equipment, and other factors which provide guidance on the firm*s ability to perform the work; and

b) Provide to each certified firm it rejects a description, in writing, of areas where it believes the firm is weak and steps it could take to upgrade its qualifications.

(2) Reasonable Price. An entity may use any process it so chooses for determining a reasonable price including, but not limited to, competitive bidding (open or closed) or private negotiations. However, before an entity can reject a certified firm on the basis of price, it must offer the certified firm an opportunity to negotiate price. If there is only one technical qualified firm, an entity must enter into negotiations on price with such firm and contract with that firm if a reasonable price can be negotiated. No entity may reject a certified firm on the grounds that the price is not reasonable and subsequently contract with a non-certified firm at the same or higher price.

Section 10-3-3 Submission of a Contracting and Subcontracting Plan

(1) Before, or at the same time, an entity submits a request for a permit, lease or other authorization for business development within the Wind River Reservation, it must submit a contracting and subcontracting plan to the TERO. The plan shall indicate contracts and subcontracts that will be entered into such development and the projected dollar amounts thereof. If the entity has already selected a firm to perform any contract or subcontract work, it shall list the name of that firm and indicate whether or not it is a certified firm. If it is not a certified firm, the entity shall further indicate why each certified firm registered with the TERO in the relevant area of endeavor was not selected and the name of the contact person at each certified firm with which the entity dealt. No authorization shall be granted to any firm which submits a plan indicating that less than one hundred percent (100%) of the value of all subcontracts will be paid to certified firms, unless the entity can demonstrate that it was unable to employ Indian firms qualified or available. To make such a demonstration, the entity must show, at a minimum, that it interviewed all Indian firms listed on the TERO register in that area and that:

a) A sufficient number was not available to enable it to meet its goals, or

b) The ones that were available and would have enabled the entity to reach its goal were rejected because they lacked the necessary technical qualifications.

(2) No entity authorized to develop a business on the Reservation shall deviate from its plan in a manner that will diminish the percentage of Indian subcontracting without obtaining the prior written approval of the TERO.

(3) The TERO shall have the right to inspect the records of any entity to ensure that a plan is complied with.

(4) No entity shall circumvent the requirements of this Code by hiring non-Indians and designating them as employees rather than a subcontractor.

Section 10-3-4 Operation of the Contract or Subcontract

Once an entity enters into a contract with a certified firm, the TERO will not intervene in any way in the relationship between the parties unless a certified firm demonstrates that action taken against it is intended primarily to circumvent the requirements of this Code.

Section 10-3-5 Placement of Non-Indian Firms by Certified Firms After a Project is Under Way

When an entity hires a non-certified firm (it is not sufficient that the certified firm was in existence but not available) and if a qualified certified firm subsequently comes into existence, the entity must replace the non-certified firm with the certified firm; but only if the contract or relationship between the entity and the non-Indian firm will extend for more than one (1) year beyond the date the entity is notified by the TERO of the existence of a certified firm.

(1) If the legal relationship between the entity and the non-certified firm is through a year-to-year contract, the non-certified shall be replaced only when the contract expires; provided that, in no case shall an entity have less than two hundred seventy (270) days from the official notification that a certified firm is available to make a transition from use of the non-certified firm to use of the certified firm. That is, if the contract expires within two hundred seventy (270) days following notification that a certified firm is available, the entity shall have the right to extend the contract with the non-certified firm to a date not to exceed two hundred seventy (270) days from that notice. At the end of that period, the entity shall employ the Indian firm if it is qualified.

(2) If there is no written contract and/or an ongoing working relationship, the entity will have two hundred seventy (270) days to make the transition.

(3) The transition period may be waived completely or extended by the TERO in individual cases upon a showing of hardship upon the entity.

Section 10-3-6 Reports and Monitoring

All entities engaged in any aspect of business development on the Wind River Reservation shall submit such reports to the TERO as it requests, provided that the entity may refuse to submit any information which it can demonstrate must remain confidential for valid business purposes. The employees of the TERO shall have the right of on-site inspections during regular business hours in order to monitor compliance with this Code and shall have the right to talk to any employee on-site so long as it does not interfere with the operations of the business.

Section 10-3-7 Individual Complaints

Any certified firm, group of certified firms or other person or entity which believes that any entity covered by this Code has failed to comply with its requirements may file a complaint with the TERO, whether or not the complaining party can demonstrate it is personally harmed by the alleged non-compliance.

Section 10-3-8 Compliance and Hearing Procedures

If the TERO has reason to believe that an entity covered by this Code has failed to comply with any of its requirements, the TERO shall so notify the entity in writing specifying the alleged violation(s). If the party being so notified is a contractor or subcontractor, notice shall be provided to the entity holding the permit or authorization under which the contractor or subcontractor is operating and such entity may be a party to all further negotiations, hearings and appeals. The entity cited and the TERO shall have twenty (20) days to pursue a voluntary, informal resolution of the problem. If no such resolution can be reached by the end of twenty (20) days, the TERO shall notify the Review Board (Joint Business Council) and request that is set up a formal meeting on the problem within twenty (20) days of such notice. The TERO shall prosecute complaints it determines to have merit on the basis of their authority from the Shoshone and Arapaho Tribes. If the Review Board shall decide that an entity has failed to comply with the Code, the Board shall impose one or more of the sanctions provided for in this Code and may order the party to take such corrective actions as are necessary to remedy any harm done to the Tribe or to certified firms by the non-compliance.

Section 10-3-9 Sanctions

Any or all of the following sanctions may be imposed for violation of the Code:

(1) Civil monetary fines not to exceed $500.00 per violation. Each day a party is found to be out of compliance with this Code may be considered as a separate violation.

(2) Suspension or termination of an entity*s authorization to develop a business on the Wind River Reservation; provided that the party shall be given a reasonable time to remove its equipment and other property it may have on the Reservation and to arrange with another party for assumption or any contractual obligations it has.

(3) Prohibit the party from engaging in future development on the Wind River Reservation for a specified period or indefinitely.

(4) Provide monetary or other relief to any certified firm or other entity which was harmed by the party*s non-compliance with this Code.

CHAPTER 4 CERTIFICATION POLICIES AND PROCEDURES

Section 10-4-1 Criteria for Indian Contract Preference Certification

To receive certification as a firm eligible for Indian preference, an applicant must satisfy all of the following criteria:

Section 10-4-2 Ownership

The firm or joint venture must be eighty-five percent (85%) or more Indian-owned. The applicant must demonstrate the following:

(1) Formal Ownership. That an Indian or Indians own(s) eighty-five percent (85%) or more of the partnership corporation, joint venture, or other arrangement for which the application is being submitted. Such ownership must be embodied in the firm*s organic documents, such as its stock ownership or partnership agreement. Ownership includes:

a) Financial ownership - i.e., the Indian(s) own eighty-five percent (85%) or more of the assets and equipment, will receive eighty-five percent (85%) or more of the firm*s assets upon dissolution, and received eighty-five percent (85%) or more of the profits; and

b) Control - i.e., the Indian's eighty-five percent (85%) or more ownership provides him with a majority of voting rights or other decision mechanism and that all decisions of the firm are to be made by a majority vote except where otherwise required by law.

(2) Value. The Indian owner(s) provided real value for his eighty-five percent (85%) or more ownership providing capital, equipment, real property or similar assets commensurate with the value of his ownership share directly or indirectly, through a promissory note, the ultimate creditor of which is the non-Indian owner of the firm or an immediate relation thereof, or any similar arrangement, unless a convincing showing can be made that the Indian owner(s) brought such special skills, marketing connections, or similar benefits to the firm that there is a good reason to believe the arrangement would have been entered into even if there were not an Indian preference program in existence.

(3) Profit. The Indian owner(s) receives eighty-five percent (85%) or more of all profits. If there is any provision that gives the non-Indian owner a greater share of the profits, in whatever form and under whatever name, such as through management fee, equipment rental fees, bonus tied to profits or other vehicles, certification will be denied. Salary scales will be reviewed to ensure the relative salaries being paid Indian and non-Indian owners are consistent with the skills of the parties and are not being used to circumvent the requirement that Indian owners receive eighty-five percent (85%) or more of the profits.

Section 10-4-3 Management Control

The firm must be under significant Indian management and control. The firm must be able to demonstrate that:

(1) Unitary Firms (Non-Joint Ventures). One or more of the Indian owners must be substantially involved, as a senior level official, in the day-to-day management of the firm as his primary employment activity. The Indian owner does not have to be the "Chief Executive Officer." However, he must, through prior experience or training, have substantial occupational ties to the area of business in which the firm is engaged such that he:

a) Is qualified to serve in the senior level position; and

b) Is sufficiently knowledgeable about the firm*s activities to be accountable to the Shoshone and Arapaho Tribes for the firm*s activities. This provision may be waived when:

I) the firm is one hundred percent (100%) Indian-owned and the Chief Executive Officer is the spouse and/or parent of the owner(s), the family lives on or near the Reservation and the majority of employees are Indian; or

ii) the firm is modeled on a publicly held corporation such that it is owned by ten (10) or more persons, is at least eighty-five percent (85%) Indian-owned, the Chief Executive Officer and the highest salaried employee in the firm is/are Indian, and a majority of the employees are Indian.

(2) Joint Ventures. In addition to the above requirement on management and control, a joint venture will be required to demonstrate that the Indian firm is, in fact, the controlling partner in the joint venture. The venture will be required to demonstrate that the Indian partner has the experience and expertise to manage the entire operation and that the non-Indian partner is providing specialized or limited resources or expertise to the venture and is not the manager in fact.

Section 10-4-4 Integrity of Structure

There must be good reason to believe that the firm was not established solely or primarily to take advantage of the Indian preference program. In evaluating an applicant under this criterion, the TERO will consider the factors set out below. The TERO shall exercise broad discretion in applying these criteria in order to preserve the integrity of the Indian preference program and in questionable cases shall deny certification.

(1) History of the Firm. Whether the history of the firm provides reason to believe it was established primarily to take advantage of the Indian preference program, particularly whether the firm, a portion of the firm, or key factors in the firm originally associated with a non- Indian owned business gained little or business value in terms of capital, expertise, equipment, etc., by adding Indian ownership or by merging with an Indian firm.

(2) Employees.

a) Whether key non-Indian employees of the applicant are former employees of a non-Indian firm with which the Indian firm is or has been affiliated, through a joint venture or other arrangement, such that there is reason to believe the non-Indian firm is controlling the applicant;

b) Whether Indians are employed in all or most of the positions for which qualified Indians are available. A high percentage of non-Indian employees in such positions will provide reason to believe the firm was established primarily to benefit non-Indians; and

c) Whether any certified Indian owned firm with ten (10) or more employees will be required to employ eighty-five percent (85%) Indian employees, if it is impossible for various reasons it will be negotiable.

(3) Relative Experience and Resources. Whether the experience, expertise, resources, etc., of the non-Indian partner(s) is so much greater than that of the Indians that there is little sound business reason for the non-Indian to accept a junior role in the firm or venture other than to be able to take advantage of the Indian preference program.

CHAPTER 5 CERTIFICATION PROCEDURES

Section 10-5-1 Application for Certification

A firm seeking certification as a firm eligible for Indian preference shall submit a completed application to the Shoshone and Arapaho Tribes TERO on a form provided by the TERO (application forms may be obtained at the TERO office). TERO staff will be available to assist a firm to fill out the application. Within twenty-one (21) days after receipt of a completed application, the TERO shall review the application, request such additional information as it believes appropriate (computation of the 21-day period shall be stayed during the time any request for additional information is outstanding), conduct such investigations as it deems appropriate, and submit an analysis and recommended disposition to the Review Board. Copies of the analysis and recommended disposition shall be kept confidential and shall not be made available to the applicant or any other party. When it is so required, the TERO may extend the processing period by an applicant by registered mail. Within fifteen (15) days of receipt of the TERO*s analysis and recommended disposition, the Review Board shall hold a hearing on the application, posting notice of the hearing time at the Tribal Office, the agency and the TERO Office at least five (5) days prior to the hearing. All principals of the firm shall be present at the hearing. In addition, any other party wishing to present information to the Review Board shall be entitled to do so, by requesting, no less than one (1) day prior to the hearing, an opportunity to participate and such party may be represented by counsel. The hearing shall be conducted as provided in Chapter 6.

Section 10-5-2 Probationary Certification

An applicant granted certification shall be issued a six (6) month probationary certification. During that period, the TERO and the Review Board shall monitor the firm*s activities to ensure that the firm is operating in the manner described in its application. During the probationary period, the TERO and the Review Board shall have the right to request and receive such information and documents as they deem appropriate.

Section 10-5-3 Final Certification

At the end of the probationary period, the Review Board, after receiving recommendations from the TERO, shall either:

(1) Grant full certification;

(2) Continue the probationary period for up to six (6) months; or

(3) Deny certification.

Section 10-5-4 Withdrawal of Certification

From information provided in the change notices or Annual Reports, on the basis of written grievance filed by any other firm or person, or on its own initiative, the TERO may initiate proceedings to withdraw or suspend certification for any firm. The TERO shall prepare an analysis and recommended disposition for the Review Board and shall send the firm notice by registered mail that its certification is being examined, along with the grounds thereof. The Review Board shall then set a date for a hearing, which shall be held within twenty-one (21) days after it receives the analysis and recommended disposition from the TERO. At the hearing the TERO staff shall present the case for suspension or withdrawal and the hearing shall be conducted as in Chapter 4. After the hearing the Board may:

(1) Withdraw certification;

(2) Suspend certification for up to one (1) year;

(3) Put the firm on probation; and/or

(4) Order the corrective action be taken within a fixed period. A firm that has had certification withdrawn may not reapply for a period of one (1) year.

Section 10-5-5 Firms Certified Prior to the Adoption of these Criteria

Each firm holding Indian preference certification from the Tribe at the effective date of this Code shall submit an application required under these criteria to the TERO within thirty (30) days after the effective date of these criteria. If the TERO determines the firm qualifies under these new criteria, it shall, within twenty-one (21) days of receipt of the application, so recommend to the Review Board, which, unless it has grounds to act to the contrary, shall issue a new certificate within thirty (30) days of receipt of the TERO*s recommendation without the need for public hearing. If the TERO has reason to believe the firm does not qualify, it shall prepare an analysis of the reasons therefor along with its recommended disposition. The analysis shall be submitted to the Review Board within twenty-one (21) days after receipt of the application. Should the TERO require additional information from the firm, computation of the 21-day period shall be stayed by the Board for a reasonable time to permit such information to be provided. The Review Board, after providing the firm an opportunity for a hearing as provided in Chapter 6 which shall be held within thirty (30) days after receipt of the TERO*s findings, shall:

(1) Grant the firm a new certification; or

(2) Determine that the firm is not in compliance. If the Review Board determines that the firm is not in compliance, it shall provide the reasons therefor and the firm shall have fifteen (15) days from the date of the decision to demonstrate to the Review Board that it has made such changes as are necessary to come into compliance. If at the end of the 15-day period the firm has failed to come into compliance, its certificate shall be withdrawn. A copy of the withdrawal notice shall be sent by registered mail to the firm.

Section 10-5-6 Annual and Other Reports

Each certified firm shall report to the TERO, in writing, any changes in its ownership or control status with sixty (60) days after such changes have occurred. Each certified firm, on the

anniversary of its receipts of permanent certification, shall update the information provided in its initial application on an Annual Report form provided by TERO. Failure to provide information pursuant to these requirements shall constitute grounds for withdrawal of certification.

CHAPTER 6 HEARING AND APPEAL PROCEDURES

Section 10-6-1 Hearing Procedures

At all hearings before the Review Board, all participants shall have the following rights:

(1) To be represented by counsel at their own expense;

(2) To be present at the hearing;

(3) To present relevant sworn testimony and documentary evidence; and

(4) To call witnesses and to ask questions of witnesses or other participants.

All hearings before the Review Board shall be conducted in an orderly manner, but formal rules of evidence need not be observed.

Section 10-6-2 Decisions after Hearing

After the hearing, the Review Board shall issue its written decision. All decisions shall state the grounds therefor. A copy of the decision shall be sent to all participants by registered mail.

Section 10-6-3 Appeals

A party shall have the right to appeal any decision of the Review Board to the Tribal Court. An appeal shall be filed within thirty (30) days after receipt of notice of the Review Board*s decision. The TERO Director shall represent the interests of the Tribe on an appeal. The Court shall reverse the decision of the Review Board only where it finds that decision to be arbitrary and capricious or unsupported by substantial evidence.

CHAPTER 7 APPLICATION FORM

APPLICATION FOR CERTIFICATION AS AN INDIAN PREFERENCE FIRM IN THE BUSINESS DEVELOPMENT AREA

I. Firm Identification

Name of Firm (exactly as you want it to appear on all documents):

_____

Address:_____

_____ Telephone: _____

Date of Submission: _____

Single Business: _____ Joint Venture: _____

Contact Person: _____

Address: _____

Telephone Business: _____ Home: _____

Type of Business (list all areas of business in which firm intends to engage):

_____

_____

Federal Identification Number: _____

Number of Employees: _____ Number of Indian Employees: _____

Year Business was Established: _____

II. Ownership

A. Type of Ownership (check one):

___ Sole Proprietorship

___ Partnership (attach copy of any partnership agreement with amendments since creation of partnership)

___ Corporation (attach copy of the Certificate of Incorporation, Articles of Incorporation and By-Laws, including all amendments since creation of the corporation)

B. Percent of Indian Ownership: _____

C. For each Indian owner, provide name, address, tribal affiliation, enrollment number, percent of ownership, amount of investment in the firm, method of investment (cash, equipment, loan or promissory note indicating who the loan is from), percent of voting control, and position in the firm.

D. For each non-Indian owner, list name, address, percent of ownership, amount of investment in firm, method of investment (cash, equipment, loan or promissory note indicating who the loan or note is from), percent of voting control, position in firm, name of all other firms owner holds or has within the past year held an ownership interest in other than publicly held corporations and similar ownerships solely for investments or a management position in.

E. List any management fee, equipment rental, bonuses or other arrangement that will provide payment to non-Indian owners beyond their share of profits and salaries, as indicated above.

F. Describe or attach any stock options or other ownership options that are outstanding and any agreements between owners or between owners and third parties which restrict ownership or control of Indian owners.

G. Identify any owner or management official of the named company who is or has been an employee of another company that has an ownership interest in or a present business relationship with the named company. Present business relationships include shared space, equipment, financing or employees as well as both companies have some of the same owners.

H. Indicate if this company or other companies with any of the same officers have previously received or been denied certification or participation as an Indian preference firm and describe the circumstances. Indicate the name of the certifying authority and the date of such certification or denial.

III. Management

A. For each owner of more than five percent (5%) interest, all senior management personnel and members of the Board of Directors provide the following:

1. Name, address and Social Security Number. If Indian, Tribe and enrollment number.

2. Present position (description of all duties).

3. Previous business experience.

4. Previous work experience in areas in which firm intends to engage.

5. Other previous work experience.

6. Education and training.

7. Other jobs presently held.

B. Control Company. Identify by name, race, sex and title in company those individuals (owner and non-owners) who are responsible for day-to-day management, including but not limited to those with prime responsibility for:

1. Financial decisions.

2. Management decisions, such as:

a) Marketing and sales;

b) Hiring and firing;

c) Purchase of major or equipment or supplies; and

d) Supervision of field personnel.

IV. Capital and Equipment

A. Equipment. List all equipment (costing $300.00 or more when new).

Quantity	Description	Price, Book Value	How Obtained (purchased, provided by owner, etc.)

B. Capital.

1. Attach a current balance sheet.

2. Identify amount and source of original and present capital (e.g., contributed by owner, bank loan, if loan, indicate name(s) of those legally bound to repay if other than corporation).

C. Additional Submissions.

Each applicant must submit with this application the following:

1. Lists of officers, principal stockholders and directors, with post office addresses and number of shares held by each.

2. A sworn statement of the proper officer showing:

a) The total number of shares of the capital stock actually issued and the amount of cash paid into the treasury on each share sold; or, if paid in property, the kind, quantity and value of the same share;

b) Of the stock sold, how much remains unpaid and subject to assessment;

c) The amount of cash the company has in its treasury and elsewhere;

d) The property, exclusive of cash, owned by the company and its value; and

e) The total indebtedness of the company and the nature of its obligations.

V. Certification

I hereby certify that the information provided in this application is true and complete to the best of my knowledge and belief. I further hereby certify that I have read the applicable

TERO Code, criteria and procedures and do hereby submit to the jurisdiction provided for therein.

Name of Firm:_____

By:_____
(Signature of Authorized Official)

Name (please type or print):_____

Title (please type or print):_____

SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: WRC Lander Pharmacy

B. Architect's Name: DSGW Architects.
   1. 2 West First Street, Suite 201
   2. Duluth, MN 55802
   3. (218) 727-2626 phone

C. MECHANICAL/ELECTRICAL ENGINEER:
   1. Design-Build

D. The Project consists of the remodel of the existing pharmacy facility in Lander Wyoming. Work consist of but is not limited to: Demolition, Carpentry, Thermal Properties, Openings, Finishes, Specialties and MEP.

1.02 CONTRACT DESCRIPTION

A. These Specifications with the accompanying Drawings are intended to describe and illustrate all work necessary to carry out the work of the project listed.
   1. Provide labor, materials articles, equipment, incidentals, items, tools, services, supplies, methods, operations, skills in such quantities as may be necessary to complete Project within the intent of the Contract Documents. Singular notations shall be considered plural where plural application is reasonably inferable. Mention or indication of extent of work under any work Division or Specification Section is done only for convenience of Contractor and shall not be construed as describing all work required under that Division or Section.
   2. Drawings: The List of Drawing Sheets is included in Section 00 01 15. Contractors and all Subcontractors shall be bound by the information and requirements provided by the complete set of Drawings. Individual Detail Sheets shall be considered with and as a part of the Drawings and the overall Contract Documents.
   3. The Divisions and Sections of the Technical Specifications primarily apply to the various trade divisions, but Contractor and all Subcontractors shall be bound to the information and requirements of the complete set of Specifications.
   4. Other Requirements: The requirements of all Sections of Divisions 00 and 01 apply to and shall govern the Contractor and all Subcontractors for this Project. Supplementary General Conditions and all Sections Division 01 shall govern Work of all technical Sections. Where provisions and requirements are referred to as the responsibility of the Contractor or a particular Subcontractor, he shall have the primary responsibility to accomplish, provide, assume, and enforce, but the Contractor and all Subcontractors shall be governed by the requirements and cooperate fully in fulfilling the requirements.
   5. Examination of Site and Documents: In submitting a bid and in accepting a Contract award, the Contractor represents he has examined the site, existing conditions as well as the entire set of documents, in accordance with the General Conditions and agrees to be bound by all conditions of the site, existing conditions, and all documents, without additional cost.

1.03 WORK BY OWNER

A. Refer also to document 00 72 00, General Conditions.

B. The Owner reserves the right to let other contracts in connection with this Project. This Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials and execution of their work, and shall properly connect and coordinate his work with theirs.

C. The Owner reserves the right to jointly occupy the premises with the Contractor in the performance of his duties and functions. The Owner also reserves the right to: enter into the

Project and premises at all times; make installations of materials and equipment at appropriate times as the Work progresses; install equipment, furniture, and furnishings when spaces are at appropriate stages of completion. Contractor shall coordinate work with the Owner and cooperate with the Owner to minimize undue interferences.

D. If any part, unit, phase, or the entire Project is substantially complete or ready for occupancy, the Owner may, upon notice to the Contractor, and without prejudice to any of the rights of the Owner or Contractors, enter into and make use of the Work that is substantially complete.

1.04 OWNER OCCUPANCY

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

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Do not infringe on areas outside of the established construction limits indicated on Drawings or designated by the Owner without permission of the Owner. Arrange temporary easements which may be required for construction operations, maintain safety precautions, and return to original conditions upon completion of the Contract. The Owner may caution Contractor about conditions which they observe, but shall not be held responsible to provide such advice or for enforcing any protection.

B. Contractors and all other persons connected with this project shall only use parking areas approved.

C. Contractors shall use and maintain in clean condition site access route as designated. No other access shall be used for vehicles or men.

D. Move any stored products which interfere with operations of Owner or other Contractors.

E. Do not load structures with weights which will endanger the structure.

F. Maintain site in safe condition and keep free of construction materials and debris.

G. Maintain fire protection and access at all times. Permit immediate access by fire fighting equipment.

H. Hazardous Protection: Warning signals, barricades and other protective measures for hazard shall be in place or operate 24 hours per day.

I. The Contractor shall do all patching of existing property on or adjacent to the site, including but not limited to: walks, pavements, roadways, structures, and utilities which are cut or damaged by construction and are not designated for removal, relocation or replacement in the course of the construction.

J. Work occurring on public property shall be constructed in accordance with all laws, ordinances, rules, regulations and orders of any public authority having jurisdiction.

K. Site Management Requirements:
   1. The Prime Contractor shall coordinate all work on site with the Owner and Architect.
   2. General: Upon commencement of the Work at the site, the Prime Contractor shall assume the site management at areas within construction limits as agreed to by the Owner and Contractor, other areas where work is to be performed and adjacent storage areas, to provide proper direction to all contractors, subcontractors and workmen. Site management shall be coordinated with the Owner and shall include maintaining areas as specified and required to be free of construction activity, parking and storage where it is necessary to provide clear access and areas for the Owner's functions.
   3. Responsibilities: Site management and maintenance shall include, but not be limited to: enforcement of access, parking, delivery, storage, noise and other restrictions; maintenance of fences in good condition; providing and maintaining temporary facilities as specified; dewatering the excavations, except water in trenches and excavations made by subcontractors solely for their own work; protection of adjacent structures as may be damaged caused by water; overall fire and safety management; protection for site

features to remain; temporary partitions, closures, dust barriers and similar to separate work areas in existing building spaces; and similar overall or general management of the site and adjacent public and other property to fulfill the obligations of this Contract.

4. Fencing: Refer to Section 01 50 00 for fencing to be provided at areas of construction and storage.
5. Use of Streets: Where the conduct of the work requires the obstruction or use of a roadway or parking lot, it shall be the responsibility of the respective Contractor to secure all necessary permission from the Owner. Contractors shall be responsible for the protection of the public in the vicinity of the work and nothing in these specifications shall be construed to relieve him of said responsibility. Protective devices shall conform to the requirements of the Highway Department having jurisdiction and/or the proper public authorities and shall be installed as required by the Owner.

L. Provide access to and from site as required by law and by Owner:
1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
2. Do not obstruct roadways, sidewalks, or other public ways without permit.

1.06 WORK SEQUENCE

A. Begin work when scheduled by general contractor to achieve substantial completion as scheduled to prevent delay in the work by others.

B. Deviations in the schedule must be authorized by the architect and owner.

C. Time Set by Schedule: Where the constraints, completion and timing of Work specified in this or other Sections do not have specific dates or time imposed by the Contract Documents, they shall be considered and incorporated as established dates in the final Construction Schedule of the Prime Contractor. Where the activity affects the Owner, the time or dates established in the construction schedule shall be maintained, as the Owner will plan his activities accordingly.

D. Other Considerations: In addition to the time of commencement, substantial completion and final completion dates, all other events, fasteners, and constraints shall be carefully considered in establishing the work program and schedule of the Project. The Contractor and subcontractors shall work closely in timing of operations and shall have materials, equipment and other elements ready to be able to immediately fulfill their obligations in the overall schedule.

E. Final Completion: Within 10 days after substantial completion.

F. Time of Completion:
1. The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.
2. Delays and Extension of Time: All time limits stated in the Contract Documents are of the essence of the Contract. The Contractor may be granted an extension of time and/or relief of Liquidated Damages because of causes beyond the Contractor's control which constitute a justifiable delay. The Owner will extend the time subject to the following provisions:.
    a. Claims for extension of time shall be made per Article 8 of the GENERAL CONDITIONS.
    b. Written notice of the delay, an explanation of the cause and an estimate of the length of delay shall be forwarded to the Architect within five days of the beginning of such delay.
    c. Claims for extension of time shall be stated in numbers of whole calendar days. The actual dates on which the delay(s) occurred must be stated. In the case of claims for extension of time because unusual inclement weather prevented the execution of major items of the Work on normal working days, calendar days shall be computed

by multiplying normal work days (five days per week) by a factor of 1.4. Contractor must provide documentation of all weather related delays and claims for the extension will be allowed only if the weather is distinctly out of line with the ten year average.

d. Any claim for extension of time for strikes or lockouts shall be supported by a situation of facts concerning the strike, including but not limited to, the dates, the craft concerned, the reason for the strike, efforts to resolve the dispute, and efforts to minimize the impact of the strike in progress.
e. Any claims for extension of time for delays in transportation or for failure of suppliers shall be supported by a citation of facts demonstrating that the delays are beyond the Contractor's control, including, but not limited to, his efforts to overcome such delays.
f. The time extensions for changes in the Work will depend upon the extent, if any, by which the changes cause delay in the completion of various elements of construction.
g. A Change Order granting the time extension may provide that the Contract Completion Date will be extended only for those specific elements so delayed and that the remaining work will not be altered. Further, the amended completion date shall be of essence to this contract and shall be subject to the same conditions as the original completion time.

3. Project Schedule:
   a. General: The General Contractor shall prepare the Final Contractors Construction Schedule for the Work. The location and nature of the Project, the requirement to maintain the operation, functions, and services of the Owner dictates careful planning, scheduling and close cooperation between the Contractor, subcontractors and the Owner. The Contractor shall keep the Owner advised of his intended operations and schedule and be guided by other constraints or timing of work that may develop during construction. It is the intent of the Owner to cooperate as far as possible to minimize hampering of operations and the Contractor may suggest schedules and timing which will facilitate progress.
   b. Within ten work days after award of the Contract, prepare, submit and review with the Owner and Architect a detailed schedule addressing work activities and estimate duration of the activities. This schedule shall be prepared in such detail and form as the Architect may require and will be subject to the Approval of the Architect and Owner.
   c. In general, the schedule shall indicate the various phases of work coordinated and integrated time-wise with the other work. The schedule shall also indicate the various activities of each of the areas, stages, and phases of work, with integrated and coordinated commencement and completion times. After review by the Owner, including any revised sequencing proposed by the Contractor or Owner to improve the progress or minimize the disruption of the Owner's functions, the Contractor shall revise the schedule as the "final" schedule, which will provide the planning information for the Owner's relocation and other operations.
   d. Submit schedule updates and Material Status Report updates with applications of payments as requested by the Architect.
   e. Furnish manpower staffing information as requested by the Owner or Architect.
   f. Coordinate the letting of subcontracts, material purchases, shop drawings submissions, delivery of materials, sequence of operations, etc., to conform to the Project Schedule and furnish proof of same as may be required by the Architect.
   g. Revise and periodically update the Project Schedule as necessary to conform to the current status of the project and furnish copies to the Owner, Architect, and subcontractors.

4. Commencement of Work:
   a. No Contractor shall commence Work nor allow any Subcontractor or Sub-subcontractor to commence the Work until:
      1) The Contract has been fully executed; and the Owner, has issued a Notice to Proceed.

2) The Owner has approved the Contractor's Performance and Payment Bonds.
3) The Owner has approved evidence of the Contractor's Liability Insurance and any other insurance required to be purchased by the Contractor.

5. Performance/Payment Bond: Furnish a Performance/Payment Bond in accordance with the Supplementary General Conditions.
6. Other Bonds, Permits, Fees:
   a. The GENERAL CONTRACTOR shall secure and pay the cost of the building permit for the Project. Included will be the building permit fees, plan check fees, State surcharge, and other fees customarily charged for the building permit.
   b. The GENERAL CONTRACTOR shall secure and pay any additional costs for the Certificate of Occupancy for the Project.
   c. Each CONTRACTOR OR SUBCONTRACTORS shall secure and pay for all other bonds, permits, governmental fees, license and inspections required necessary for the proper execution and completion of this work.
7. Layout of the Work:
   a. The PRIME CONTRACTOR shall be responsible for and shall assist Subcontractors and Prime Trade Contractors in the location of walls, partitions, columns, beams, floors, ceilings, and openings therein where their work must be located and placed prior to the erection of these items.
   b. The Contractor and/or Subcontractor is responsible for the accuracy with respect to layout of his work. Immediately report any perceived discrepancies or errors in the Drawings to the Architect and make adjustments in accordance with instructions given by the Architect.
   c. The contractor and subcontractor shall recognize that the drawings necessarily are diagrammatic in many instances. All work and in particular exposed piping, ducts, conduit and similar items shall be neatly and carefully laid out to provide the most useful space utilization and the most orderly appearance. Piping and similar work shall be installed as close to ceilings and walls as conditions permit, located to prevent interference with other work or with the use of the spaces in the manner required by the functions of the room and staff. Valves shall be located in inconspicuous but accessible places. Before proceeding with any work, particularly where exposed, the Contractor shall carefully plan the layout and review it with the Architect for acceptability of location.
8. Openings, Blocking, Backing and Grounds:
   a. Each Trade Contractor shall be responsible for providing backing and grounds in all walls and above ceilings necessary for the installation of all contracted work.
   b. Make suitable preparations for the hangers, inserts, anchors, grounds and supports that are to be embedded in concrete, masonry walls, floors, partitions or structural members, or that are to pass through or be attached thereto. Provide and install proper sleeves, boxes, receptacles or chases for all openings or recesses to receive work occurring in or passing through any such members, all of which shall be located accurately and secured firmly in place before any such masonry has been erected, concrete poured or walls/ceilings enclosed.
9. Field Dimensions: The need to obtain accurate file dimensions in ample time to permit fabrication of materials and equipment, for delivery and installation in accordance with the schedule, shall be recognized. Each Contractor and all subcontractors shall cooperate in completing work phases to accommodate the schedule for obtaining dimensions and to prevent fabrication delay. In the event it is impractical to have work in place to permit field dimensions, the Contractor shall guarantee necessary dimensions, before construction, to the various fabricators and be responsible to insure the dimensions.
10. Reference to Standards and Codes:
    a. Notice of Variance: If a Contractor observes that the drawings and specifications are at variance with any applicable code or regulation of a governmental unit having authority, he shall promptly notify the Architect in writing, and any necessary changes shall be adjusted as provided in the Contract for Changes in the Work. If a

Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Architect, he shall bear all costs and damages arising therefrom.

b. Reference Standards: For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes and other standards.

c. Effect of Standards: The standards referred to, such as ASTM, Federal Specifications, NFPA and similar standards , shall have full force and effect as though printed in the Specifications, except as modified in the Specification. These standards are not furnished to bidders and Contractors as it is assumed that these standards are readily available and that the manufacturers and trades involved are familiar with their requirements.

d. Date of Standard: Any material specified by reference to the number, symbol or title of a specific standard, such as ASTM, Commercial Standard, a Federal Specification, a trade association standard, or other similar standard, shall comply with the requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date of the Contract Documents, unless otherwise noted.

e. Certificate: For products specified in accordance with a Federal Specification, ASTM Standard, American National Standards Institute or similar association standards, upon request the Contractor shall provide an acceptable affidavit by independent testing laboratory or other source approved by the Architect, certifying that product furnished for this Project complies with the particular standard specifications. Where necessary, requested or specified, supporting test data shall be submit to substantiate compliance. The manufacturer is subject to Architect's acceptance.

11. Coordination Requirements:

a. General: The nature of the Project makes it imperative the Contractor and all subcontractors and prime trade contractors coordinate their work and cooperate with each other and the Owner from the start of the Project to completion. PRIME CONTRACTOR shall be the Prime Coordinator for the Project and shall establish the overall schedule for the progress of the Project, the sequence of completion and general use of the site.

b. Off-Site Fabrication: With the restricted site, off site fabrication is encouraged as much as possible and schedule of deliveries so materials and equipment can be installed immediately after delivery. The Project Coordination Administrator shall alert and advise subcontractors and suppliers of the need to hold deliveries until they are notified the materials are required on the site.

c. Equipment: With respect to mechanical and electrical features of equipment, complete data must be exchanged directly between the Contractors and subcontractors involved as the progress of the Project requires. The person requesting the information shall advise when it will be required. The suppliers of equipment are expressly required to provide large scale layout drawings showing the required rough-in locations of all services (dimensioned from building features) service characteristics. In the event of incorrect, incomplete, delayed or improperly identified information, the party causing the delay or error shall be responsible and pay for any modifications or replacements necessary to provide a correct, proper and new installation, including relocations required.

1.07 GENERAL PROTECTION AND SAFETY

A. General: In accordance with best construction practices, the Prime Contractor shall be responsible for conditions of the job site, including safety of all persons and property affected directly or indirectly by his operations during the performance of the Work. This requirement shall apply continuously 24 hours per day until acceptance of the Work by the Owner and shall not be limited to normal working hours.

1.08 PHOTOGRAPHS / PRESS RELEASES

A. Do not take, or cause any photographs to be taken at the job site without prior approval of the Owner / Architect.

B. Do not issue any press releases or disseminate information concerning the project to the news medial without prior approval of the Owner / Architect.

1.09 WORKING HOURS

A. This project shall be scheduled by the Prime Contractor to operate on a 5-day, 40-hour per week basis. Contractors employing trades who work other than the above hours must provide for coordination of their work as it relates to the work of other trades which work the above hours at no additional cost to the Owner. This schedule may be changed or modified with the approval of the Owner / Architect.

1.10 HAZARDOUS MATERIAL REMOVAL

A. If during the construction of the Project hazardous material is suspected or encountered by the Contractor, the Contractor shall promptly notify the Architect and the Owner, with his own forces or by separate contract, shall be responsible for complete removal and disposition of the hazardous material.

B. If the Contractor claims that delay and additional cost is involved because of this action, he shall make claim as provided elsewhere in the Contract Documents.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

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

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

C. Change procedures.

1.02 RELATED REQUIREMENTS

A. Document 00 72 00 - General Conditions and Document 00 73 00 - Supplementary Conditions: Additional requirements for progress payments, final payment, changes in the Work.

1.03 SCHEDULE OF VALUES

A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

B. Forms filled out by hand will not be accepted.

C. Submit Schedule of Values in triplicate within 15 days after date of Owner-Contractor Agreement.

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

E. Include in each line item, the amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

F. Include within each line item, a direct proportional amount of Contractor's overhead and profit.

G. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

C. Forms filled out by hand will not be accepted.

D. Execute certification by signature of authorized officer.

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

F. Round off all figures on all progress payments to the nearest dollar, any adjustment required shall be made on the final application for payment.

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

H. Submit three copies of each Application for Payment. Upon review and approval, the Architect will sign and forward three (3) copies to the Owner with their recommendations.

I. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 01 30 00.
   2. Affidavits attesting to off-site stored products.
      a. No payment will be made to a contractor on account of materials and equipment in transit or stored at off site locations unless prior approval is received from the Owner and Architect. Proof of proper insurance must be submitted for materials stored of site before approval will be considered.

3. Lien Waivers: Will be required for each payment request by each Contractor and Subcontractor. First lien waivers to be submitted with Payment Request No. 2 covering payment for Payment Request No. 1. They shall then continue with subsequent payment requests covering the preceding payment.
    a. With submission of the final payment request, or upon request for reduction of retainage, the Contractor shall provide lien waivers from all subcontractors and suppliers covering all dollar amounts for which a lien waiver has not yet been submitted.
4. Payroll Records: Will be required for each pay request by each Contractor and Subcontractor carrying out work on the site. Each application for payment submitted shall be accompanied by payroll records current to within twenty-one (21) days of the date of the application.
    a. Final payment to a contractor will not be made until payroll records are submitted covering completed project.

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

1.05 RETAINAGE

A. To insure the proper performance of the Contract, the Owner will retain FIVE PERCENT of the amount of each Certificate for Payment issued by the Architect. Such amount will be retained by the Owner until Substantial Completion. At substantial completion the withholding amount will be reduced to Two Percent.

B. In event of a very minor amount of work, incomplete or not corrected due to weather, unsuitable conditions for testing or similar conditions preventing the General Contractor from proceeding, the retained amount may be reduced to three times the value of the incomplete work upon recommendation of the Architect and approved by the Owner.

1.06 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Architect will issue instructions directly to Contractor.

B. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
2. Promptly execute the change.

C. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 10 days.

D. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01 60 00.

E. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
1. For change requested by Architect for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Architect.
3. For pre-determined unit prices and quantities, the amount will based on the fixed unit prices.

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

F. Substantiation of Costs: Provide full information required for evaluation.
   1. Provide following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

G. Percentages allowed for Overhead and Profit shall be as listed in the Supplementary General Conditions, Section 00 73 00.

H. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

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

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

K. Promptly enter changes in Project Record Documents.

1.07 APPLICATION FOR FINAL PAYMENT

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

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 01 70 00.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preconstruction meeting.

B. Progress meetings.

C. Construction progress schedule.

D. Coordination drawings.

E. Submittals for review, information, and project closeout.

F. Number of copies of submittals.

G. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 00 72 00 - General Conditions: Dates for applications for payment.

B. Section 00 73 00 - Supplementary Conditions: Duties of the Construction Manager.

C. Section 01 10 00 - Summary: Stages of the Work, Work covered by each contract, occupancy

D. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.

E. Section 01 78 00 - Closeout Submittals: Project record documents.

1.03 PROJECT COORDINATION

A. Project Coordinator: General Contractor.

B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for site access, traffic, and parking facilities.

C. During construction, coordinate use of site and facilities through the Project Coordinator.

D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.

F. Coordinate field engineering and layout work under instructions of the Project Coordinator.

G. Make the following types of submittals to Architect through the Project Coordinator:
   1. Requests for interpretation.
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Design data.
   6. Manufacturer's instructions and field reports.
   7. Applications for payment and change order requests.
   8. Progress schedules.
   9. Coordination drawings.
   10. Correction Punch List and Final Correction Punch List for Substantial Completion.
   11. Closeout submittals.

H. Use Wyoming Public Works Standard Specifications, 2015 Edition, and City of Riverton, Wyoming Special Provisions for utility work. Wyoming Public Works Standard Specifications may be purchased and downloaded at www.acec.org/wyoming/. Contact the City of Riverton, Public Works Department at 307-856-2227 for a copy of their Special Provisions

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Architect will schedule a meeting after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.

C. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract and Architect.
   6. Designation of personnel representing the parties to Contract, General Contractor, Major Subcontractors, Owner and Architect.
   7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   8. Rules and regulations governing performance of Work.
   9. Procedures for safety and first aid, security, quality control housekeeping, and other related matters.
   10. Scheduling.
   11. Any additional Owner or Architect/Engineer requirements.

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

3.02 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.

B. Contactor will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.

C. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Contractor's Superintendent.
   5. Major Subcontractors.

D. Agenda:
   1. Review minutes of previous meetings.
   2. Review of Work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Review of off-site fabrication and delivery schedules.
   7. Maintenance of progress schedule.
   8. Corrective measures to regain projected schedules.
   9. Planned progress during succeeding work period.
   10. Maintenance of quality and work standards.
   11. Effect of proposed changes on progress schedule and coordination.
   12. Other business relating to Work.

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

3.03 PRE-INSTALLATION CONFERENCES

A. When required in individual specification section, the Architect shall convene a pre-installation conference at work site prior to commencing work of the Section. When possible this shall be scheduled to coincide with a regular progress meeting.

B. Attendance will be required by all parties directly affecting, or affected by, work of the specific Section.

C. Notify all parties seven days in advance of meeting date.

D. The Architect shall ,preside at conference, record minutes, and distribute copies to all participants.

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

3.04 CONSTRUCTION PROGRESS SCHEDULE

A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 10 days after joint review, submit complete schedule.

E. Submit updated schedule with each Application for Payment.

3.05 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

C. Samples will be reviewed only for aesthetic, color, or finish selection.
   1. Samples to include return label(s) and packaging for shipment to the location as preffered by Contractor / Manufacturer. Intent is to repurpose samples.

D. Allow for at least two weeks review of submittals to avoid delay of work.

E. Include with submittal preparation, field construction criteria, verification of catalog numbers and similar data, and coordination of Work requirements and Contract Documents.

F. Make all submittals to the Architect through the project coordination administrator unless specified otherwise.

G. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.06 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.

5. Manufacturer's instructions.
6. Manufacturer's field reports.
7. Other types indicated.

B. No shop drawings of equipment brochures, cuts of fixtures, etc. Such copies of standard manufactured items in the form of manufacturer's catalog sheets showing sizes, dimensions, performance characteristics, capacities, clearances, wiring diagrams, and shall be furnished in quantities of five copies unless otherwise specified. Copies will be stamped, and three copies will be returned to the Project Coordination Administrator for distribution to the subcontractor or supplier. If notations and marks indicate that revised information is required before shop fabrications (or other work represented) can proceed, revised or corrected information shall be submitted.

C. Unless otherwise specified, submit to the Architect two representative samples of size and nature representing typical qualities. Where required, submit a sufficient number of samples to demonstrate the complete range of variations of the material or quality. Written acceptance of the Architect is required prior to ordering any item for which samples are required.

D. Submit samples to Architect securely packaged, with the name of the Project clearly indicated on the package exterior. Firmly attach a label or tag to the sample, with the following information: a) Name of Project; b) Name of Supplier; 3) Name of Trade Contractor, and, d) Product information such as manufacturer's designation, finish, type, class, grade, etc., as is appropriate.

E. Erect field samples and mock-ups at the project site, unless otherwise specified in the Contract Documents, at a location acceptable to the Project Coordination Administrator, Architect and Owner.

F. Review of shop drawings, product data and samples by the Architect or his consultant does not relieve the Contractor, Subcontractor or Supplier of responsibility for compliance with the Contract Documents, confirming and correlating quantities and dimensions, selecting fabrication processes and techniques of construction, coordination of the work represented by each submittal with other trades, performing the work in a safe and satisfactory manner, compliance with the Project Schedule and all other provisions of the agreements.

G. The Architect's/Engineer's notation on the submittals is not an authorization for additional work or additional cost. If any notations represent a change to the Contract Sum, submit a cost proposal to the Architect, through the Project Coordination Administrator for the change in accordance with the procedures specified before proceeding with the work. Notify the Project Coordination Administrator by letter within five days of returned submittal. Resolve such issues before proceeding with the work.

H. The Contractor, Subcontractor or supplier shall not begin fabrication until all specified submittal procedures have been fulfilled.

I. In order to guarantee the delivery of materials for timely completion of the work, and to relieve the Contractor of direct responsibility in the event of materials shortages or transportation delays, the Supplier shall, within two (2) weeks after the receipt of Notice to Proceed, furnish to the Architect, confirmed orders showing the anticipated date of delivery to the site, for materials for all of the principle parts of the work and for such others as the Architect/Engineer or Owner may direct.

J. In addition to Warranty provisions of the General Conditions, provide all extended warranties, bonds and service contracts as required by individual specification sections.

K. Assemble and submit to the Architect warranties, bonds, and service and maintenance contracts as specified in the respective section of the Specifications. In conjunction with the submittals of Section 01 78 00, the table of contents for this submittal shall include the product of work item, the form, with the name of the principal, address and telephone number, scope, date of beginning of the warranty, bond or service maintenance contract, duration, information for the Owner's personnel providing the proper procedure in case of a failure and instances which might affect the validity of the warranty or bond.

L. The beginning date of the warranty will be the date that the project is substantially completed.

M. Reports of inspections, tests and approvals required by the Contract Documents shall be submitted to the Architect, through the Project Coordination Administrator, in the quantities indicated.

N. Submit for Architect's knowledge as contract administrator or for Owner. No action will be taken.

3.07 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.08 NUMBER OF COPIES OF SUBMITTALS

A. Documents for Review:
   1. Transmit five copies of each shop drawing (minimum 6 copies of structural, mechanical and electrical) to Project Coordination Administrator.
      a. The Project Coordination Administrator shall generally review shop drawings for compliance with the Drawings and Specification.
      b. Five or six prints of shop drawings individually stamped by Project Coordination Administrator will be sent to Architect for review.
   2. Architect or his consultant will review all shop drawings and will return 3 copies to the Project Coordination Administrator stamped to indicate action taken.
      a. The 3 copies of any shop drawings that are not satisfactory to the Architect or his consultant will be returned to the Project Coordination Administrator for necessary revision and resubmittal.
      b. Three copies of shop drawings that do not require major revisions, will have corrections, if any, noted, and will be stamped to indicate Architect's action.

B. Documents for Information: Submit two copies.

C. Documents for Project Closeout: Make one reproduction of submittal originally reviewed. Submit one extra of submittals for information.

D. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.09 SUBMITTAL PROCEDURES

A. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
   2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.

B. Transmit each submittal with a copy of approved submittal form.

C. Transmit each submittal with letter of transmittal.

D. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.

E. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

F. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

G. Deliver submittals to Architect at business address.

H. Schedule submittals to expedite the Project, and coordinate submission of related items.

I. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

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

K. Provide space for Contractor and Architect review stamps.

L. When revised for resubmission, identify all changes made since previous submission.

M. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

N. Submittals not requested will not be recognized or processed.

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. References and standards.

B. Submittals.

C. Control of installation.

D. Tolerances.

E. Control of installation.

F. Tolerances.

G. Manufacturers' field services.

H. Defect Assessment.

1.02 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2014).

B. ASTM C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation; 2014.

C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2013.

D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.

E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection and/or Testing; 2014a.

F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2013.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
   1. Include:
      a. Date issued.
      b. Project title and number.
      c. Name of inspector.
      d. Date and time of sampling or inspection.
      e. Identification of product and specifications section.
      f. Location in the Project.
      g. Type of test/inspection.
      h. Date of test/inspection.
      i. Results of test/inspection.
      j. Conformance with Contract Documents.
      k. When requested by Architect, provide interpretation of results.
   2. Test report submittals are for Architect's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.

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

1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

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

E. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
1. Submit report in duplicate within 30 days of observation to Architect for information.
2. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

F. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
2. Data indicating inappropriate or unacceptable Work may be subject to action by Architect or Owner.

1.04 REFERENCES AND STANDARDS

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

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

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

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

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

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

PART 3 EXECUTION

2.01 CONTROL OF INSTALLATION

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

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

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

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

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

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

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

2.02 TOLERANCES

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

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

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

2.03 MANUFACTURERS' FIELD SERVICES

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

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

2.04 DEFECT ASSESSMENT

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

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary telecommunications services.

C. Temporary sanitary facilities.

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

E. Security requirements.

F. Vehicular access and parking.

G. Waste removal facilities and services.

H. Project identification sign.

I. Field offices.

1.02 TEMPORARY UTILITIES

A. Provide and pay for all electrical power, lighting, water, heating and cooling, and ventilation required for construction purposes.

B. Temporary Light and Power:

1. Prime Contractor Responsibilities:
    a. The Prime Contractor shall coordinate temporary light and power during construction phases of the project.
    b. The Prime Contractor shall pay for all electrical energy used.
    c. Coordinate with the sitework contractor.
2. Electrical Sub-Contractor responsibilities:
    a. Provide temporary ties into an existing panel/panels within the general proximity of the remodeling and new construction.
    b. Provide at least one 20 amp., 120 volt, temporary branch circuit with three grounding, duplex receptacles for each 7500 sq. ft. of floor area. Locate receptacles so that extension cords will not exceed 100 feet in length. The temporary branch circuits may be used for portable tools, portable lights and other small power loads.
    c. Provide at least one 200 watt incandescent lamp, or the equivalent lighting for each 625 sq. ft. of floor area with at least one light in each room. Provide additional lights in corridors and stairwells as necessary to provide adequate illumination. Furnish all light bulbs for the temporary lighting system.
    d. Maintain the temporary electrical service and lighting during the normal work week which is defined as five days a week, including one-half hour before regular working hours and one-half after regular working hours for each trade. (10 hours per day)
    e. Remove the temporary light and power system and the temporary service terminals when no longer required, and repair any damage caused by the temporary system.
3. Separate Contractor/Subcontractor responsibilities:
    a. If 3-phase power or voltage higher than 120 volts is required, provide the necessary temporary wiring, and pay the cost thereof. Coordinate installation with Electrical Contractor.
    b. Do not use the temporary light and power system for electric welders, hoists, or heating.
    c. Maintain temporary electrical service and lighting if used beyond the normal work week, See 1.06.B.6.
    d. Each subcontractor shall make arrangements and pay the costs for electrical service, lighting and power for his field office, storage sheds, and other temporary buildings.
    e. Each Sub-Contractor shall furnish extension cords and contractors requiring supplemental lights shall furnish their own portable lights.

4. Use of permanent electrical system: when installation of the permanent electric system is sufficiently complete to be operated safely and system may be used to provide construction light and power, and testing and operating of permanent equipment.
5. Permanent light and power: The Owner will assume the responsibility and pay the costs of providing electrical light and power including the energy cost on the date of his occupancy or the date of Substantial Completion of the Project, whichever is sooner.

C. Water:
1. Water is available at the site for use by the Contractor. Contractors shall make every effort to conserve the use of water.
2. Water consumption cost will be paid by the Owner.
3. Until such time as the permanent water service utilities are provided to the site EACH TRADE CONTRACTOR shall provide all water required to carry out the work of their contract.
4. After permanent water supply is in place, the General Contractor shall make arrangements for a supply of water as required and water consumption cost will be paid by the General Contractor.
5. Contractors/Subcontractors are responsible for providing their own hoses to bring water from the temporary water source to their work areas. Only heavy duty 3/4" hose in good condition will be permitted. The discharge end of each hose will be equipped with a means of positive shut-off. Do not use hoses which leak at connections or elsewhere throughout their length. Disconnect all hoses from hose bibs when not in use and before the end of the work day.
6. Each Contractor/Subcontractor shall provide remote sanitary drinking water dispensers for use of their own personnel, convenient of work stations.
7. Those using the water shall protect or remove water supply during freezing temperatures.

1.03 CONSTRUCTION HEAT PRIOR TO ENCLOSURE

A. It is not anticipated that construction heat will be required prior to enclosure of the project.

B. Adhere to the approved Project Schedule, regardless of weather conditions, during the period when work is scheduled to be performed. All required work and the cost thereof to meet this obligation will be included in the Contractor's base proposal and in the resulting Contract Sum. No claim for an extension of Contract Time, or for an increase in Contract Sum will be honored by the Owner, if such claim is based upon the cost of providing construction heat as specified above.

C. Each Contractor or Subcontractor to be responsible for providing temporary weather-tight enclosures as approved by the Owner and Architect, as work progresses, and as necessary to provide acceptable working conditions to accomplish their work without causing a delay in the project.

1.04 CONSTRUCTION HEAT AFTER ENCLOSURE

A. For construction heat purposes, the building or portion thereof will be declared enclosed when all enclosing walls are erected, roof or floor construction above is installed, and all doors, windows, or openings in the exterior walls are covered.

B. After enclosure, if required, the General Contractor shall provide, operate, and maintain a temporary system for heating the enclosed area of the building. This system shall consist of direct fired L.P. gas, temporary heat units or other devices as required to maintain the specified temperatures.

C. After enclosure of the building, a minimum temperature of 50 degrees F. shall be maintained at all times. During the placing of interior millwork, resilient flooring, acoustic tile, ceramic tile, plaster, painting and decorating, and similar finish materials, and continuing until the Owner assumes responsibility for heating the building, the minimum temperature shall be 60 degrees F. It shall be the responsibility of each Contractor to coordinate with the General Contractor to assure that all temporary enclosures remain in the closed position.

D. The General Contractor shall arrange for the ventilation of enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, and gases.

E. This temporary heating and ventilation shall remain in place until the permanent heating and ventilation systems are installed, including ductwork.

1.05 USE OF PERMANENT HEATING AND VENTILATING SYSTEMS:

A. If required, the General Contractor and the Heating Contractor shall operate and maintain the equipment during its use for temporary heating.

B. The cost of fuel and utilities used in the operation of the permanent heating system will be paid for by General Contractor.

C. Warranties shall begin upon Substantial Completion.

D. The permanent system shall be operated, after final review and acceptance, with a full compliment of disposable filters which shall be replaced by the Mechanical Contractor upon completion of the project.

1.06 VENTILATION

A. The General Contractor shall arrange for the ventilation of enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, and gases.

1.07 TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.

B. The General Contractor shall provide and maintain telephone service within his office for his own use and use by all contractors, subcontractors, and representatives of the Owner and the Architect. Toll charges shall be paid by the party initiating the call using credit cards, watts lines or reverse charges.

C. Each contractor shall be responsible for installation, payment of charges, and removal of any telephone he may require in his office or storage trailer.

D. Use of cellular phones will be permitted.

E. Telecommunications services shall include:

1.08 TEMPORARY SANITARY FACILITIES

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

B. Maintain daily in clean and sanitary condition.

C. The Prime Contractor shall provide & maintain one or more portable “Satellite type” temporary toilets convenient to each major area of construction, for the use of all Contractors, subcontractors, their personnel and employees.

D. Permanent toilet facilities are not to be used by construction personnel.

1.09 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Each Contractor shall furnish and maintain all necessary informational signs required to help maintain the safety and health at the work site such as "Danger" "High Voltage", etc.

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

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

1.10 FENCING

A. Construction: Contractor's option.

1.11 EXTERIOR ENCLOSURES

A. Provide temporary weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.12 INTERIOR ENCLOSURES

A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

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

1.13 CONSTRUCTION ACCESS AND BARRIERS

A. Each Contractor shall provide temporary construction access consisting of OSHA approved ladders and/or scaffolding required to carry out the work of their contract. These shall be placed at a location approved by the General Contractor.

B. Each Contractor and Subcontractor shall provide hoisting facilities for his own use.

C. Each Contractor shall provide temporary sheeting and shore and brace excavations and new construction as necessary for the safe and proper execution of the Work. Remove temporary supports when backfilling is complete or new construction can safely support the loads.

D. The General Contractor shall provide protective fences, barricades and lights as required to prevent unauthorized entry to construction areas to meet all safety requirements of OSHA and to protect existing facilities and adjacent properties from damage from their construction operations.

1. Any contractor carrying out excavation or requiring excavations shall protect excavations, trenches, etc. from accidental access by placing protective fencing around openings.

1.14 SECURITY

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

B. The General Contractor shall be responsible for security of the building and site. Exterior openings at which work cannot be completed within one working day's time will be closed to prevent entry into existing buildings or new construction.

C. This shall include those temporary closures as required under Construction Heat after enclosure.

D. Each Contractor will be responsible for the security of his own property.

1.15 VEHICULAR ACCESS AND PARKING

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

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

C. Provide means of removing mud from vehicle wheels before entering streets.

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

E. Parking locations will be designated by the General Contractor.

F. Trucks and other vehicles belonging to Contractors, Subcontractors and suppliers may be parked on the site provided space is available and the vehicles are identified. Such parking shall be subject to the direction of the General Contractor.

G. Perform cleaning of concrete equipment at location designated by the General Contractor. Remove from the site all residue accumulated from the cleaning operations of concrete equipment.

H. Contractors failing to adequately clean vehicles or otherwise causing dirt or debris to be deposited on any public street or highway shall be responsible for all costs in connection with the cleaning thereof whether performed by the General Contractor, or at the direction of any public authority having jurisdiction.

I. Access to the site shall be by roadways, approved by the Owner.

J. Access Roads shall be established and maintained by the Earthwork Contractor, as directed the General Contractor.

K. Snow Removal:
   1. General Snow removal from site access roads, parking areas, and building access will be carried out by the General Contractor.
   2. Each Contractor will be responsible for the removal of snow from their work, stored materials, and access to same.

1.16 WASTE REMOVAL

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

B. Provide containers with lids. Remove trash from site periodically.

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

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

E. Each contractor/subcontractor shall collect waste from the construction areas & dispose of in dumpsters as provided by the Prime Contractor.

F. If contractor/subcontractor does not remove this waste on a timely basis, the Owner/Architect may direct the prime contractor to remove waste and the contractor/subcontractor may be back charged by the prime contractor for this removal.

G. Separate construction waste & recycle dumpsters may be provided, and if so, all contractors shall separate all waste materials as directed and place into proper dumpster.

1.17 PROTECTION OF INSTALLED WORK

A. Each Contractor shall see to it that protection is provided for work as follows:
   1. Protect installed Work and provide special protection where specified in individual specification Sections.
   2. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
   3. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
   4. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
   5. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

B. The Contractor shall arrange for the correction of any damage caused by the operations of himself or any Subcontractor and shall deduct the cost of corrections from monies due the Contract.

1.18 PROJECT IDENTIFICATION

A. Provide project identification sign of design and construction indicated on Drawings.

B. Erect on site at location indicated.

C. No other signs are allowed without Owner permission except those required by law.

1.19 FIELD OFFICES

A. None required.

B. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rackand drawing display table.

C. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

D. If space is available, contractors may provide a field office for their own use, installed at a suitable location on the site as designated by the General Contractor. Provide and pay for all utilities used in conjunction with field office.

E. Locate offices a minimum distance of 30 feet from existing and new structures.

1.20 TEMPORARY STORAGE

A. Contractors may provide storage sheds and/or trailers as their needs may require, and as space is available, coordinate the location with the General Contractor. All temporary structures will be removed before final acceptance of the Work.

B. Limit use of the premises for work and for storage. Cooperation with all separate contractors on the project shall be under the direction of the General Contractor.

1.21 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

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

B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.

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

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

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Re-use of existing products.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations and procedures.

E. Procedures for Owner-supplied products.

F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 SUBMITTALS

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

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

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

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

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.

B. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

C. Reused Products: Reused products include materials and equipment previously used in this or other construction, salvaged and refurbished as specified.

2.02 NEW PRODUCTS

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

B. Where all other criteria are met, Contractor shall give preference to products that:

1. If used on interior, have lower emissions.
2. If wet-applied, have lower VOC content.
3. Have a published GreenScreen Chemical Hazard Analysis.

C. Provide interchangeable components of the same manufacture for components being replaced.

D. Provide products that meet or exceed requirements that may be related to energy code compliances.

2.03 PRODUCT OPTIONS

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

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

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

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

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

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

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

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

C. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.

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

3.02 OWNER-SUPPLIED PRODUCTS

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

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

3.03 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

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

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

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

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

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

H. Replace damaged materials at no additional cost to the owner.

I. Deliver items required to be built into masonry or concrete promptly to the site so they may be built in as the work progresses. Provide templates showing exact locations.

J. Do not deliver materials subject to damage unduly long before they are required in the work and suitable storage facilities are available at the site.

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

3.04 STORAGE AND PROTECTION

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

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

C. Store with seals and labels intact and legible.

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

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

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

G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

H. Comply with manufacturer's warranty conditions, if any.

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

J. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

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

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

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

N. Arrange storage of products to permit access for inspection. Periodically inspect to ensure products are undamaged and are maintained under specified conditions.

O. Replace damaged materials at no additional cost to the owner.

END OF SECTION

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.

C. Pre-installation meetings.

D. Cutting and patching.

E. Surveying for laying out the work.

F. Cleaning and protection.

G. Starting of systems and equipment.

H. Demonstration and instruction of Owner personnel.

I. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 RELATED REQUIREMENTS

A. Section 07 84 00 - Firestopping.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
   1. On request, submit documentation verifying accuracy of survey work.
   2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in conformance with Contract Documents.
   3. Submit surveys and survey logs for the project record.

C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.

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

1.04 QUALIFICATIONS

A. For demolition work, employ a firm specializing in the type of work required.

B. For survey work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of Surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate.

C. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in the State in which the Project is located.

1.05 PROJECT CONDITIONS

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

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

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

E. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
   1. Minimize amount of bare soil exposed at one time.
   2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
   3. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
   4. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

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

G. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.

H. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

I. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.06 COORDINATION

A. This PROJECT COORDINATION ADMINISTRATOR shall coordinate the work of this project, including the work of his subcontractors.

B. This PROJECT COORDINATION ADMINISTRATOR shall coordinate all work of the project with the Owner, the Architect and other contractors carrying out work at the site.

C. Each Sub-Contractor and Material Supplier shall coordinate the work of his and that of related contractors, subcontractors and material suppliers with the aid of the Project Coordination Administrator.

D. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

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

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

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

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

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

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

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

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

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

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

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

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

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

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

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

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

3.03 PREINSTALLATION MEETINGS

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

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

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

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

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

3.04 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect of any discrepancies discovered.

C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

D. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.

F. Utilize recognized engineering survey practices.

G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:

1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
2. Grid or axis for structures.
3. Building foundation, column locations, ground floor elevations.

H. Periodically verify layouts by same means.

I. Maintain a complete and accurate log of control and survey work as it progresses.

3.05 GENERAL INSTALLATION REQUIREMENTS

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

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

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

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

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

3.06 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
1. Verify that construction and utility arrangements are as shown.
2. Report discrepancies to Architect before disturbing existing installation.
3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

C. Remove existing work as indicated and as required to accomplish new work.
1. Remove items indicated on drawings.
2. Relocate items indicated on drawings.
3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
    a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
    b. Provide temporary connections as required to maintain existing systems in service.
4. Verify that abandoned services serve only abandoned facilities.

5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

E. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.

F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
   1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
   2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
   3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
   4. Trim existing wood doors as necessary to clear new floor finish. Refinish trim as required.

G. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

H. Refinish existing surfaces as indicated:
   1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
   2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

I. Clean existing systems and equipment.

J. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

K. Do not begin new construction in alterations areas before demolition is complete.

L. Comply with all other applicable requirements of this section.

3.07 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-conforming work.

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

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

F. Patching work shall be done by skilled mechanics experienced in the particular type of work involved. Patching work shall conform to the standards of the Specifications where applicable and where not specified, work shall conform to the highest standards of the trade.

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

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

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

J. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.

K. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

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

3.08 PROGRESS CLEANING

A. The Contractor and Subcontractors will be responsible for their own cleanup as specified and removal of their own debris. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

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

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

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

E. Do not throw waste material and rubbish down from upper levels.

F. Hammer in or bend over flush with the wood protruding nails in boards, planks, timbers, etc.

G. Dispose of hazardous wastes in accordance with applicable laws and regulations.

H. Promptly remove from the work area all waste materials and rubbish resulting from the performance of the work. Clean up on a day-to-day basis throughout the construction period.

I. Perform continuous clean-up of flammable debris to prevent accumulation.

J. Contractors and Subcontractors shall provide for the removal of stains and overages caused by operations, such as mastics, mortar, concrete, joint compounds, paint, caulking, etc.

K. The Contractor shall provide periodic broom cleaning of project areas using sweeping compound as required to prevent airborne dust.

L. The Architect may require the Contractor to broom clean any area or areas of the project at any time he feels there is excess dust or dirt, which inconveniences building occupants or finishing operations.

M. If the premises and the site are not maintained properly at all times, the Owner may have any accumulation of waste materials or trash removed and charge the cost to the Contractor who is responsible.

N. In addition to cleaning above, each Contractor or Subcontractor shall thoroughly clean and vacuum floors prior to the installation of the finish flooring, such as sealing exposed slabs, ceramic or quarry tile, sheet vinyl flooring, V.C.T., carpet, etc.

3.09 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

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

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

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

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

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

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

3.10 SYSTEM STARTUP

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

B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

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

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

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

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

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

3.11 DEMONSTRATION AND INSTRUCTION

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

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

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

D. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of owner personnel.

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

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

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

3.12 ADJUSTING

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

3.13 FINAL CLEANING

A. At Completion of the Work promptly remove tools, equipment, machinery, and surplus materials from the Project site.

B. The Masonry Trade Contractor is responsible for final cleaning of all masonry surfaces.

C. Use cleaning materials that are nonhazardous.

D. Leave all surfaces broom clean and ready for final cleaning unless otherwise required by the Specifications.

E. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

F. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

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

H. The Mechanical Contractor shall clean all ductwork and grills (in and out), and polish all plumbing fixtures, trim, etc.

I. If air handling equipment is operated during construction, filters for air handling equipment shall be replaced or thoroughly cleaned according to manufacturer's instructions, by the HVAC contractor. Clean filters of operating equipment.

J. The electrical subcontractor shall wash, vacuum, dust or otherwise clean light fixtures and other electrical work in finished spaces as necessary to remove all stains, dust and dirt. Other electrical equipment in mechanical rooms, transformer vaults, switch gear rooms, and similar unfinished spaces shall be left "broom clean". Burned out lamps shall be replaced.

K. All areas within lights, ducts, chases and other items, areas or equipment which will be "closed up" by the Contractor, as a part of the work of their contract, shall be thoroughly cleaned by the Contractor prior to closing up.

L. Clean debris from from areas deemed unclean and as neccessary/required.

M. Clean site; sweep paved areas, rake clean landscaped surfaces.

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

O. The Contractor shall arrange for professional cleaners or experienced workmen for other final cleaning, to remove dust, dirt, finger prints and labels from all interior and exterior surfaces and to polish glossy surfaces to a clear shine.

P. The Work shall be maintained in a clean condition until the Architect determines that the Project is substantially complete.

Q. Cleaning required by subsequent work done after Substantial Completion shall be carried out by the Contractor or Subcontractor of the required work and shall be accomplished prior to Final Completion.

3.14 CLOSEOUT PROCEDURES

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

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Substantial Completion.
   1. When the Work is considered Substantially Complete, as defined in the General Conditions THE PRIME OR PRIME TRADE CONTRACTOR shall submit to the Architect:
      a. A written notice that the Work, or designated portion thereof, is substantially complete.

b. A list of items to be completed or corrected.

2. Within a reasonable time after receipt of such notice, Architect will make a pre-final inspection to determine the status of completion.
3. Should the Architect determine that the Work is not Substantially Complete:
   a. Architect will promptly notify the Contractor in writing, giving the reasons therefor.
   b. Contractor will remedy the deficiencies in the Work, and send a second written notice of Substantial Completion to the Architect.
   c. The Architect will reinspect the Work.

D. Should the Architect determine that the Work is not Substantially Complete:
   1. Architect will promptly notify the Contractor in writing, giving the reasons therefor.
      a. Contractor will remedy the deficiencies in the Work, and send a second written notice of Substantial Completion to the Architect.
      b. The Architect will reinspect the Work.
      c. When the Architect finds that the Work of all Contractors is Substantially Complete, the Architect will execute and deliver to Certificates of Substantial Completion to the Prime contractor with a revised list of items to be completed or corrected before final payment.

E. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
   1. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.
   1. When the Work is considered complete, submit written certification to the Architect along with a copy of the punch list confirming completion of each individual item listed, that:
      a. Contract Documents have been reviewed.
      b. Work has been inspected for compliance with Contract Documents.
      c. Work has been completed in accordance with Contract Documents.
      d. Equipment and systems have been tested in the presence of the Owner's Representative and are operational.
      e. Work is clean and ready for final inspection.
   2. Upon receipt of the above certification, the Architect/Engineer shall set a date for final inspection to be made only when the project is complete and when all deficiencies of the pre-final inspection have been corrected.
   3. One week prior to this date, the Architect will inform the Owner and contractors of this inspection in writing.
   4. Immediately following this inspection, the Architect shall prepare a written report listing the names of all persons present at the inspection and the Architect shall prepare a punch list of all deficiencies for completion and correction. Copies of this report will be provided to the Owner, General contractor and the bonding company.
   5. Should Architect consider that the Work is incomplete or defective:
      a. Architect will promptly notify the Contractor or Contractors in writing, listing the incomplete or defective work.
      b. Contractor will take immediate steps to correct the stated deficiencies, and send a second written certification to Architect that the Work is complete.
      c. Architect will re-inspect the Work.
      d. Contractor or Contractors will be responsible for any reinspection cost incurred by Owner due to the necessity of the Architect's re-inspection.

H. Final Completion:
   1. Test Reports and Certificates: Provide all test reports and certificates required in the technical sections, prior to final payment. Provide a check list of required reports and certificates, by Specifications sections.
   2. Retention of Records: Retain all records as required by law and good business practice.
   3. Remove all temporary utilities as the job progress permits.
   4. Temporary Facilities: As the job progresses and facilities are no longer needed, they shall be removed by the Contractor. Prior to final payment, remove temporary sheds, fences, barricades, surplus materials, debris and other material or items not part of the Project.

I. Closeout Submittals:
   1. When the Owner has determined that the Work is acceptable under the Contract Documents and the Contract fully performed, Contractor shall prepare and submit final Application for Payment to the Architect together with the following:
      a. Insurance: Refer to Section 00 73 00.
         1) The specified Property Insurance (Multiple Peril Builder's Risk) shall be maintained until final acceptance by the Owner of the entire Project.
      b. Contractor's Affidavit of Payment of Debts and Claims, AIA Document G706.
      c. Consent of surety to final payment of Consent of Surety Company to Final Payment, AIA Document G707. The Consent of the Surety Company must be obtained prior to any reduction of retained percentage and prior to final payment.
      d. Minnesota Department of Revenue "Withholding Affidavit for Contractors" document IC-134, fully completed and certified.
      e. Evidence of Compliance with requirements of governing authorities:
         1) Certificate of Inspection from all required agencies and departments.
         2) Certificate of Occupancy.
      f. Operating and Maintenance Data, Instructions to Owner's Personnel.
      g. Warranties and Bonds.
      h. Project Record Documents.
      i. Special tools required for Owner maintenance.
   2. Submit four copies each of Items #2 and #3 above, and two copies each of Items # 1 and 4 through #6.

J. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

K. Final Adjustment of Accounts:
   1. Submit a Final Statement of accounting to the Architect.
   2. Reflect all adjustments to the Contract Sum in the statement as follows:
      a. The original Contract Sum.
      b. Additions and deductions resulting from:
         1) Previous Change Orders
         2) Unit Prices.
         3) Deductions for uncorrected Work.
         4) Deductions for Re-inspection Payments.
         5) Other Adjustments.
      c. Total Contract Sum, as adjusted.
      d. Previous Payments.
      e. Sum Remaining Due.
   3. Submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

L. Corrective Work & Follow-Up Inspections: The Owner shall notify the Contractor of required corrective work after completion, and the Contractor shall actively supervise such Work. The Institution shall not be inconvenienced as to prompt service and/or corrections by the Contractor that may be necessary.

END OF SECTION

SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Operation and Maintenance Data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 00 72 00 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.

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

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

1.03 SUBMITTALS

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

B. Operation and Maintenance Data:
   1. Prepare data in the form of an instructional manual for use by the Owner's personnel.
   2. Format shall conform to the following:
      a. Size 8-1/2" x 11"
      b. Text: Manufacturer's printed data, or neatly typewritten.
      c. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS". List:
         1) Title of Project
         2) Identity of separate structure as applicable.
         3) Identity of general subject matter covered in the manual.
      d. Provide fly-leaf for each separate product, or each piece of operating equipment.
         1) Provide typed description of product, and major component parts of equipment.
         2) Provide indexed tabs.
      e. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS". List:
         1) Title of Project
         2) Identity of separate structure as applicable.
         3) Identity of general subject matter covered in the manual.
   3. Binders
      a. Commercial quality three-ring binders with durable and cleanable plastic covers.
      b. When multiple binders are used, correlate the data into related consistent groupings.

C. Content of Manual:
   1. Arrange neatly a typewritten table of contents for each volume, in the following systematic order.
      a. Trade Contractor, name of responsible principal, address and telephone number.
      b. A list of each product required to be included, indexed to the content of the volume.
      c. List, with each product, the name, address and telephone number of:
         1) Trade Contractor or installer
         2) Maintenance contractor, as appropriate
         3) Identify the area of responsibility of each
         4) Local source of supply for parts and replacement

d. Identify each product by product name and other identifying symbols as set forth in Contract Documents.

2. Product Data
   a. Include only those sheets which are pertinent to the specific product.
   b. Annotate each sheet to:
      1) Clearly identify the specific product or part installed.
      2) Clearly identify the data applicable to the installation.
      3) Delete references to inapplicable information.
3. Written text, as required to supplement product data for the particular installation:
   a. Organize in a consistent format under separate headings for different procedures.
   b. Provide a logical sequence of instructions for each procedure.
   c. Do not use Project Record Documents as maintenance drawings.
4. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
5. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
6. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
7. Submit two sets of revised final documents in final form within 10 days after final inspection.

D. Warranties and Bonds:
1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.
4. Copy of each warranty, bond and service contract issued.
   a. Provide information sheet for Owner's personnel, give:
      1) Proper procedures in the event of failure.
      2) Instances which might affect the validity of warranties or bonds.
   b. Provide a logical sequence of instructions for each procedure.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed shop drawings, product data, and samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.
7. Architect/Engineer Field Orders or written instructions.
8. Field test records.

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

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

D. Record information concurrent with construction progress.

E. Maintain record documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

F. Make record documents and samples available at all times for inspection by Architect and/or Owner.

G. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

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

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

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

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

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

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

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

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

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

D. Include color coded wiring diagrams as installed.

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

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

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

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

I. Include sequence of operation by controls manufacturer.

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

K. Provide control diagrams by controls manufacturer as installed.

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

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

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

O. Include test and balancing reports.

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

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

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

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

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

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

G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.

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

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

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

1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
    a. Significant design criteria.
    b. List of equipment.
    c. Parts list for each component.
    d. Operating instructions.
    e. Maintenance instructions for equipment and systems.
    f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
3. Part 3: Project documents and certificates, including the following:
    a. Shop drawings and product data.
    b. Air and water balance reports.
    c. Certificates.
    d. Photocopies of warranties and bonds.

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

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

3.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

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

C. Co-execute submittals when required.

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

E. Manual: Bind in commercial quality 8-1/2 by 11 inch three D side ring binders with durable plastic covers.

F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.

G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.

H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION

SECTION 02 41 00
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of building elements for alteration purposes.

1.02 REFERENCE STANDARDS

A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.

B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SCOPE

A. Remove portions of existing buildings in the following sequence:
   1. Perform demolition as required by the construction sequence.

B. Remove other items indicated, for salvage, relocation, and recycling.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   3. Provide, erect, and maintain temporary barriers and security devices.
   4. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
   5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   6. Do not close or obstruct roadways or sidewalks without permit.
   7. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
   8. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

B. Do not begin removal until receipt of notification to proceed from Owner.

C. Do not begin removal until built elements to be salvaged or relocated have been removed.

D. Protect existing structures and other elements that are not to be removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

E. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

F. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

3.03 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

H. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as shown.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Separate areas in which demolition is being conducted from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of steel stud construction and polyethylene covering.

C. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.

D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
   2. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
   3. Verify that abandoned services serve only abandoned facilities before removal.
   4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.

E. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preservative treated wood materials.

B. Miscellaneous framing and sheathing.

C. Concealed wood blocking for support of wall mounted accessories, etc.

1.02 RELATED REQUIREMENTS

A. Section 07 90 05 – Joint Sealers: Related.

B. Section 09 21 16 – Gypsum Board Assemblies: Related.

C. Section 09 90 00 – Painting and Coatings: applied coatings/paint as required.

1.03 REFERENCE STANDARDS

A. AFPA (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; American Forest and Paper Association; 2012.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

E. AWPA U1 - Use Category System: User Specification for Treated Wood; American Wood Protection Association; 2012.

F. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; National Institute of Standards and Technology, U.S. Department of Commerce; 2018.

G. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology, Department of Commerce; 2025.

H. WWPA G-5 - Western Lumber Grading Rules; Western Wood Products Association; 2011.

I. International Building Code and the State of Minnesota Building Code; 2025.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide technical data on wood preservative materials and fire treated materials.

C. Structural Composite Lumber: Submit manufacturer's published structural data including span tables, marked to indicate which sizes and grades are being used; if structural composite lumber is being substituted for dimension lumber or timbers, submit grading agency structural tables marked for comparison.

1.05 QUALITY ASSURANCE

A. Lumber: Comply with PS 20 and approved grading rules and inspection agencies.

1.06 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.07 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
   2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Lumber fabricated from old growth timber is not permitted.

C. See drawings for locations of rough carpentry and associated materials.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Grading Agency: Western Wood Products Association (WWPA).

B. Sizes: Nominal sizes as indicated on drawings, S4S.

C. Moisture Content: S-dry or MC19.

D. Dimensional Lumber for framing (2x4 and 2x6 as required):
   1. Species: Spruce, Pine, Fir.
   2. Grade: No. 2 or better, with minimum design values as shown on drawings.

E. Dimensional Lumber (2x8, 2x10, 2x12 as required):
   1. Species: Douglas Fir or Southern Yellow Pine
   2. Grade: No. 2, with minimum design values as shown on drawings.

F. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

G. Miscellaneous Blocking, Furring, and Nailers:
   1. Lumber: S4S, No. 2 or Standard Grade.

2.03 EXPOSED DIMENSION LUMBER

A. Grading Agency: Western Wood Products Association (WWPA).

B. Sizes: Nominal sizes as indicated on drawings.

C. Surfacing: S4S.

D. Sizes: Nominal sizes as indicated on drawings, S4S.

E. Moisture Content: S-dry or MC19.

2.04 EXPOSED BOARDS

A. Submit manufacturer's certificate that products meet or exceed specified requirements, in lieu of grade stamping.

2.05 CONSTRUCTION PANELS

A. Subfloor/Underlayment Combination: Any PS 2 type, rated Single Floor.
   1. Bond Classification: Exterior.
   2. Span Rating: 48.
   3. Performance Category: 1-1/8 PERF CAT.
   4. Thickness: 3/4 inches, nominal.

B. Sheathing as required: Oriented strand board wood structural panel; PS 2.
   1. Grade: Structural 1 Sheathing.
   2. Bond Classification: Exposure 1.
   3. Performance Category: 5/8 PERF CAT.
   4. Span Rating: 40/20.
   5. Edges: Square.
   6. Exposure Time: Sheathing will not delaminate or require sanding due to moisture absorption from exposure to weather for up to 500 days.

7. Provide fastening guide on top panel surface with separate markings indicating fastener spacing for 16 inches and 24 inches on center, respectively.
8. Warranty: Manufacturer's standard lifetime limited warranty against manufacturing defects and that panels will not delaminate or require sanding due to moisture absorption damage from exposure to weather for up to the stated period.

C. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

D. Other Applications:
1. Other Locations: PS 1, C-D Plugged or better.

E. Wood species to be Western Red Cedar with standard clear grade.

2.06 ACCESSORIES

A. Fasteners and Anchors:
1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

B. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions.
1. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing per ASTM A653/A653M.

C. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions.

D. Sill Gasket on Top of Foundation Wall: 1/4 inch thick, plate width, closed cell plastic foam from continuous rolls. Provide Sill Sealer manufactured by Certainteed.

2.07 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.
2. Fire Retardant Treatment: AWPA Treatment C27 for plywood, Interior Type A Low Temperature (low hygroscopic), chemical treatment pressure impregnated; capable of providing a maximum flame spread/smoke development rating of 25 or less / 25 or less. Provide Dricon manufactured by Hickson Corporation or approved equal.

B. Preservative Pressure Treatment of Lumber above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.25 lb/cu ft retention.
1. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
a. Treat lumber in contact with roofing, flashing, or waterproofing.
b. Treat lumber in contact with masonry or concrete.
c. Treat lumber less than 18 inches above grade.
d. Preservative Pressure Treatment of Plywood Above Grade: AWPA U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative to 0.25 lb/cu ft retention.
1) Kiln dry plywood after treatment to maximum moisture content of 19 percent.
2) Treat plywood in contact with roofing, flashing, or waterproofing.
3) Treat plywood in contact with masonry or concrete.
4) Treat plywood less than 18 inches above grade.

C. Preservative Pressure Treatment of Lumber in Contact with Soil: AWPA U1, Use Category UC4A, Commodity Specification A using waterborne preservative to 0.4 lb/cu ft (6.4 kg/cu m) retention.

D. Preservative Pressure Treatment of Critical Structural Members in Contact with Soil: AWPA Use Category UC6A, Commodity Specification A (Treatment C2) using waterborne preservative to 0.6 lb/cu ft retention.

PART 3 EXECUTION

3.01 PREPARATION

A. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 FRAMING INSTALLATION

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

D. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

E. Install structural members full length without splices unless otherwise specifically detailed.

F. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AFPA Wood Frame Construction Manual.

G. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches of bearing at each end.

H. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

I. Provide bridging at joists in excess of 8 feet span as detailed. Fit solid blocking at ends of members.

J. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

C. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

D. Specifically, provide the following non-structural framing and blocking:
   1. Cabinets and shelf supports.
   2. Wall brackets.
   3. Handrails.
   4. Grab bars.
   5. Towel and bath accessories.
   6. Wall-mounted door stops.

3.05 INSTALLATION OF ACCESSORIES AND MISCELLANEOUS WOOD

A. Place sill gasket directly on cementitious foundation. Puncture gasket cleanly and fit tightly to protruding foundation anchor bolts.

B. All finished work shall be scribed and coped as required for an accurate fit and erected plumb, true square and in accordance with the drawings. Correlate location of nailers, blocking grounds and similar supports to allow proper attachment or other work. All work shall be secured in place with screws or nails as required. Countersink and fill all nail and screw heads exposed to view.

C. This Contractor shall furnish and install all nails, spikes, screws, bolts and other similar items of rough hardware required in the progress of his work and shall install all items of finish hardware furnished by others.

D. As finish hardware is delivered, this Contractor shall check all items against approved hardware listing and assume full responsibility for same until completion of building. He shall inspect the work of other trades which are to receive hardware and report in writing any defects found in same before installing. Installation of any hardware by this contractor shall imply his acceptance of the work of others.

3.06 INSTALLATION OF CONSTRUCTION PANELS

A. Wall Sheathing: Secure with long dimension parallel to wall studs, with ends over firm bearing using nails. Stagger vertical joints at least one stud space. Allow 1/8" spacing at panel ends and edges. Attach APA rated wall sheathing to framing members with 6d common nails spaced 6" on center at the edges and 12" on center at intermediate supports.

B. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board.
   1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
   2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
   3. Install adjacent boards without gaps.

END OF SECTION

SECTION 06 20 00
FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Finish carpentry items.

B. Wood casings and moldings.

C. Hardware and attachment accessories.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Support framing, grounds, and concealed blocking.

B. Section 06 41 00 - Architectural Wood Casework: Shop fabricated plastic laminate faced custom cabinet and related work.

1.03 REFERENCE STANDARDS

A. AWI (QCP) - Quality Certification Program; current edition at www.awiqcp.org.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.

D. AWI/AWMAC (QSI) - Architectural Woodwork Quality Standards Illustrated; Architectural Woodwork Institute and Architectural Woodwork Manufacturers Association of Canada; 2005, 8th Ed., Version 2.0.

E. NHLA G-101 - Rules for the Measurement & Inspection of Hardwood & Cypress; National Hardwood Lumber Association; 2011.

F. WI (MAN) - Manual of Millwork; Woodwork Institute; recent edition.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with plumbing rough-in, electrical rough-in, and installation of associated and adjacent components.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories, to a minimum scale of 1-1/2 inch to 1 ft.

C. Samples: Submit two samples of wood trim 6 inches long.

D. Samples: Submit two samples of Tackboard Fabric for selection by the Architect. Colors will be selected from manufacturer's standard line of colors.

1.06 QUALITY ASSURANCE

A. Perform work in accordance with Woodwork Institute Manual of Millwork, grades as indicated.

B. Grade materials in accordance with the following:
   1. Softwood Lumber: In accordance with rules certified by ALSC; www.alsc.org.
   2. Plywood: Certified by the American Plywood Association.
   3. Hardwood Lumber: In accordance with NHLA Grading Rules; www.natlhardwood.org.

C. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

D. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum three years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Protect work from moisture damage.

1.08 PROJECT CONDITIONS

A. Do not deliver materials to the site until all masonry, drywall and tile work has been completed and has had sufficient time to dry.

B. Do not deliver materials to the site until the permanent heating system is installed and running so as to maintain a minimum temperature of 60 degrees.

C. Materials shall be delivered to the site at least seven days in advance of installation and stored in the rooms they will be installed in and allowed to acclimate to the site

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

2.02 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.03 LUMBER MATERIALS

A. Hardwood Lumber: matching species, Plain sawn, Grade I, maximum moisture content of 6 percent; with vertical grain, of quality suitable for transparent finish.

2.04 ADHESIVE

A. Adhesive: Type recommended by laminate manufacturer to suit application.

2.05 FASTENINGS

A. Fasteners: Of size and type to suit application; finish in concealed locations and finish in exposed locations.

B. Concealed Joint Fasteners: Threaded steel, or hardwood biscuits.

2.06 ACCESSORIES

A. Wood Filler: Solvent base, tinted to match surface finish color.

2.07 HARDWARE

A. Shelf Standards: Decorative Heavy Duty double slotted standards, 1-1/16-inch-wide x 11/16 inch deep by length as shown on drawings. Shelf standards shall be KV - KV0082 color as selected.

B. Shelf Brackets: double slotted Knife style, Powder Coated finish; KV0182 Bracket manufactured by KV. Bracket length shall be as required for shelving size as shown on drawings.

2.08 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

2.09 SHOP FINISHING - INTERIOR MOLDINGS, TRIM AND PANELING

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

B. On items to receive transparent finishes, use wood filler that matches surrounding surfaces and is of type recommended for the applicable finish.

C. Finish work in accordance with Woodwork Institute Manual of Millwork, Section 5, System #12 Waterbased Polyurethane.

D. Back prime woodwork items to be field finished, prior to installation.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.02 INSTALLATION

A. Install work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure materials and components in place, plumb and level.

C. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

D. All finished work shall be scribed and coped as required for an accurate fit and erected plumb, true, square and in accordance with the drawings. Correlate location of nailers, blocking grounds and similar supports to allow proper attachment or other work. All work shall be secured in place with screws or nails as required. Countersink and fill all nail and screw heads exposed to view.

E. This Contractor shall furnish and install all nails, spikes, screws, bolts and other similar items of rough hardware required in the progress of his work and shall install all items of finish hardware furnished by others.

F. Install moldings to the following standards:
   1. Moldings to receive transparent finish shall be selected for compatibility of grain and color.
   2. No warped or twisted molding shall be allowed.
   3. All moldings to be set plumb, level and true.
   4. Moldings and trim shall be installed in maximum lengths possible to minimize joints.
   5. All field joints to be tightly fitted and flush.
   6. Field joints in running trim to be diagonal ("scarfed") joints.
   7. Exposed ends of running trim shall have profiled or self mitered returns.
   8. All exposed fastenings (nails or trim head screws) shall be deep set.
   9. Miters on large members (4" or larger) shall be doweled or splined and glued.
   10. Blind nailing and concealed type fasteners to be used whenever possible.
   11. Cope or miter inside corners where applicable, to produce tight fitting joints.
   12. Miter outside joints to produce tight fitting joints.

G. Install shelving standards and brackets as shown on drawings, level and plumb.

H. Install hardware in accordance with manufacturer's written instructions.

I. See drawings for finish schedule(s).

3.03 TOLERANCES

A. Maximum Variation from True Position: 1/16 inch.

B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

END OF SECTION

SECTION 06 41 00

ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specially fabricated cabinet units

B. Countertops

C. Adjustable pharmacy bag hanging system.

E. Cabinet Hardware and Accessories

F. Adjustable shelving

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Support framing, grounds, and concealed blocking.

B. Section 06 20 00 – Finish Carpentry: Related.

1.03 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014 with Errata (2016).

B. AWI/AWMAC (QSI) - Architectural Woodwork Quality Standards Illustrated; Architectural Woodwork Institute and Architectural Woodwork Manufacturers Association of Canada; 2005, 8th Ed., Version 2.0.

C. BHMA A156.9 - American National Standard for Cabinet Hardware; Builders Hardware Manufacturers Association; 2020 (ANSI/BHMA A156.9).

D. GSA CID A-A-1936 - Adhesive, Contact, Neoprene Rubber; Federal Specifications and Standards; Revision A, 1996 (Validated 2013).

E. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood; Hardwood Plywood & Veneer Association; 2024 (ANSI/HPVA HP-1).

F. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

G. ISO 4586-2 - High-Pressure Decorative Laminates (HPL, HPDL) – Sheets Based on Thermosetting Resins (Usually Called Laminates) – Part 2: Determination of Properties; 2018.

H. ANSI A135.4 - Basic Hardboard; 2012 (Reaffirmed 2020).

I. ANSI A208.1 - American National Standard for Particleboard; 2022.

J. ANSI A208.2 - Medium Density Fiberboard (MDF) for Interior Applications; 2022.

K. AWI (QCP) - Quality Certification Program; Current Edition.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Pre-installation Meeting: Convene a pre-installation meeting not less than one week before starting work of this section; require attendance by all affected installers.

B. See drawings for product info and locations.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

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

C. Product Data: Provide data for hardware accessories.

1.06 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.

B. Perform work in accordance with AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, Custom quality, unless other quality is indicated for specific items.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage.

1.09 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.02 PANEL MATERIALS

A. Medium Density Fiberboard (MDF): ANSI A208.2; type as specified in AWI/AWMAC Architectural Woodwork Quality Standards Illustrated; composed of wood fibers pressure bonded with moisture resistant adhesive to suit application; sanded faces; thickness as required.

B. Particleboard: ANSI A208.1; type as specified in AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, composed of wood chips, medium density, made with moisture resistant; of grade to suit application; sanded faces.

2.03 LAMINATE MATERIALS

A. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications and as follows:
   1. Horizontal Surfaces: HGS, 0.048 inch nominal thickness, through color, colors as scheduled, finish as scheduled.
   2. Vertical Surfaces: VGS, 0.028 inch nominal thickness, through color, colors as scheduled, finish as scheduled.
   3. Post-Formed Horizontal Surfaces: HGP, 0.039 inch nominal thickness, through color, colors as scheduled, finish as scheduled.
   4. Flame Retardant Surfaces: HGF, 0.048 inch nominal thickness, through color, colors as scheduled, finish as scheduled.
   5. Cabinet Liner: CLS, 0.020 inch nominal thickness, through color, colors as scheduled, finish as scheduled.
   6. Laminate Backer: BKL, 0.020 inch nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.

2.04 SOLID SURFACE MATERIALS

A. Solid polymer components
   1. Cast, nonporous, filled polymer, not coated, laminated or of composite construction with through body colors meeting ANSI Z124.3 or ANSI Z124.6, having minimum physical and performance properties specified.
   2. Superficial damage to a depth of 0.010 inch (.25 mm) shall be repairable by sanding and/or polishing.

2.05 CABINETS

A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI//AWMAC/WI (AWS) for Custom Grade.

B. Materials
   1. Plastic Laminate Faced Cabinets: Custom grade.

C. SCHEDULE
   1. See Interior Finish Material Schedule in drawings.

D. Fabrication:
   1. Finish - Exposed Exterior Surfaces: Decorative laminate.
   2. Finish - Exposed Interior Surfaces: Decorative laminate.
   3. Finish - Concealed Surfaces: Laminate backing sheet.
   4. Casework Construction Type: Type A - Frameless.

5. Cabinet Style: Flush overlay.
6. Cabinet Doors and Drawer Fronts: Flush style, square edge profile,3/4 inch thick with 1mm thin applied band.
7. Adjustable Shelf Loading: 50 lbs. per sq. ft.
   a. Deflection: L/144.
8. Drawer Sides, back and sub front Construction: Minimum ¾" thick particleboard, laminated with thermally fused melamine doweled and glued into sides. Top edge banded w/ 1mm PVC
9. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.
10. All casework shall conform to the standards of the Architectural Woodworking Institute - Section 10 Casework, Custom Grade, Flush Overlay Design. All body members and tops shall be thickness as shown on the drawings or as specified herein, medium density fiberboard or plywood covered on the exposed side with decorative plastic laminate and unexposed side with laminate backing sheet.
11. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.
12. Mechanically fasten back splash to countertops as recommended by laminate manufacturer at 16 inches on center.
13. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
14. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.
15. Quartz panels: see drawings for configuration. Handle and install per manufacturer's guidelines.

E. Hardware: BHMA A156.9, types as indicated for quality grade specified.
1. Shelf Brackets: 1/8" diameter steel pins that fit into predrilled holes in the cabinet sides. Pins to have a flattened exposed surface to support the shelf.
2. Drawer and Door Pulls: Richelieu 5 inch center to center Handle Cabinet Pull, Model: BP23103128195.
3. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, finish to match cabinet hardware.
   a. locations as indicated on drawings
4. Catches: Magnetic.
5. Drawer Slides:
   a. Type: Full extension.
   b. Static Load Capacity: Commercial grade.
   c. Mounting: Side mounted.
   d. Stops: Integral type.
   e. Features: Provide self-closing/**soft-close** type.
6. Hinges: Concealed European style, steel with chrome finish, **soft-close**.

2.06 COUNTERTOPS

A. Countertops shall be fabricated to the size and configuration shown on drawings.

B. Materials
1. Plastic Laminate
2. Solid Surface

C. SCHEDULE: See Interior Finish Material Schedule on drawings.

D. Accessories
1. Adhesive:
   a. Plastic Laminate: GSA CID A-A-1936 contact adhesive.
   b. Composite Resin Solid Surface: type as recommended by manufacturer.
2. Joint Sealer
   a. Plastic Laminate: type as recommended by manufacturer.
   b. Composite Resin Solid Surface: type as recommended by manufacturer.

3. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations
4. Steel Angle Support for wide openings in countertops shall be 3/4 x 3/4 x 1/8 inch steel angles.
5. Fasteners: Size and type to suit application
6. Concealed Joint Fasteners: threaded steel
7. Metal countertop support brackets to suit application. Colors: TBD
8. Plastic Laminate Counter Edging: 3mm PVC edge banding machine applied with waterproof hot melt adhesive with external edges and outside corners of doors and drawer fronts, and countertops, machine profiled to 1/8" radius for safety. Locations as indicated. Colors: TBD
9. Grommets: plastic material for cut-outs. Outwater Plastics #35-3 or equal, 3 inch diameter grommet. Colors: TBD
10. Concealed Flat Countertop Brackets: A&M Hardware, Concealed flat bracket, size as required for application, Color: White.

2.07 ADJUSTABLE SHELVING

A. Shelving units shall be fabricated to the size and configuration shown on drawings.

B. Materials
1. Plastic Laminate.

C. SCHEDULE: See Interior Finish Material Schedule in drawings.

D. Accessories
1. Shelf Standards - shelving standards shall be fabricated from 16 gauge steel, 1-1/4" wide x ½ deep with 1" increment adjusting furnished in lengths required as shown on the drawings. Shelving standards shall have an anochrome finish. Shelving standards shall be Knape & Vogt – 85 Series Extra Heavy Duty Standards or equal.
2. Shelf Brackets - shelving brackets shall be fabricated from 16 or 14 gauge steel with an anochrome finish, depth as shown on the drawings. Shelving brackets shall be Knape & Vogt - 185 Series Brackets in lengths as shown on drawings or equal. Provide all hardware as required for complete and secure installation.
a. Heavy duty

E. SCHEDULE: See Interior Finish Material Schedule in drawings

F. Accessories
1. Joint adhesive:
a. Manufacturer’s standard one- or two-part adhesive kit to create inconspicuous, nonporous joints.
2. Sealant: type as recommended by manufacturer

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

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

C. Field verify dimensions on site prior to fabrication

3.02 INSTALLATION

A. Cabinets
1. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.
2. Use concealed joint fasteners to align and secure adjoining cabinet units.
3. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.

B. Countertops
1. Install countertops level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.

2. Field Jointing: Where possible, make in the same manner as shop jointing, using dowels, splines, adhesives, and fasteners recommended by manufacturer. Prepare edges to be joined in shop so Project-site processing of top and edge surfaces is not required. Locate field joints where shown on Shop Drawings. Secure field joints with concealed clamping devices located within 6 inches of front and back edges and at intervals not exceeding 24 inches.
3. Provide cutouts for appliances, plumbing fixtures, electrical work, and similar items.
4. Anchor countertops securely to cabinets or other support framing.
5. Install countertops with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
6. Secure backsplashes to wall with adhesive.
7. Seal junctures of tops, splashes, and walls with mildew-resistant silicone sealant or another permanently elastic sealing compound recommended by countertop material manufacturer.

C. Shelving
1. Install to specific manufacturer's instructions
2. Mount standard directly to wall studs. For standards not mounted directly to studs, install using appropriate wall anchors.
3. Use the recommended fasteners to properly secure the standard and/or brackets.
4. Ensure standards are vertically level

3.03 ADJUSTING

A. Adjust installed work.

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

C. Adjust joints to provide uniform surface appearance.

D. Repair or replace damaged work which cannot be repaired to architect's satisfaction.

3.04 CLEANING

A. Clean casework, counters, window stools, shelves, panels, hardware, fittings, and fixtures.

END OF SECTION

SECTION 07 21 00
THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Batt insulation and vapor retarder in exterior wall, ceiling, and roof construction as needed.

1.02 RELATED REQUIREMENTS

A. Section 07 84 00 - Firestopping: Insulation as part of fire-rated through-penetration assemblies.

1.03 REFERENCE STANDARDS

A. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2023.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.

C. Manufacturer's Installation Instructions: Include information on special environmental conditions required for installation and installation techniques.

1.05 FIELD CONDITIONS

A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 BATT INSULATION MATERIALS

A. Batt Insulation: ASTM C 665; preformed batt; friction fit, conforming to the following:
   1. Thermal Resistance: R-value of local compliance code.
   2. Thickness: as shown on drawings.
   3. Facing: Unfaced.
   4. Manufacturers:
      a. CertainTeed Corporation: High Performance Batt Insulation
      b. Johns Manville International, Inc: Unfaced Insulating Blankets
      c. Owens Corning Corp: Pink Fiberglass R-21 Thermal Insulation
      d. Guardian Fiberglass, Inc. - R-Best High Density Batts.

2.02 ACCESSORIES

A. Sheet Vapor Retarder: Specified in Section 07 25 00.

B. Adhesive: Type recommended by insulation manufacturer for application.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.

B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BATT INSTALLATION

A. Install batt insulation into the hollow ends of precast concrete planks to the depth shown on drawings. Insulation shall be packed with sufficient density to hold it in place but not so tight as to impair its effectiveness.

B. Install insulation and vapor retarder in accordance with manufacturer's instructions.

C. Install in exterior stud wall and roof spaces without gaps or voids. Do not compress insulation.

D. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

E. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.

F. Coordinate work of this section with requirements for vapor retarder.

3.05 PROTECTION

A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION

SECTION 07 25 00
WEATHER BARRIERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Weather Barrier: Under exterior wall cladding, over sheathing or other substrate as required.

B. Vapor Retarders: Materials to make exterior walls and ceilings water vapor-resistant.

C. Air Barriers: Materials that form a system to stop passage of air through exterior walls, joints between exterior walls and roof, and joints around frames of openings in exterior walls.

D. Tie in areas to match. Install to make weather tight.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Water-resistive barrier under exterior cladding

B. Section 07 21 00 - Thermal Insulation: Vapor retarder installed in conjunction with batt insulation.

C. Section 07 90 05 - Joint Sealers: Sealant materials and installation techniques.

1.03 DEFINITIONS

A. Weather Barrier: Assemblies that form either water-resistive barriers, air barriers, or vapor retarders.

B. Air Barrier: Air tight barrier made of material that is relatively air impermeable but water vapor permeable, both to the degree specified, with sealed seams and with sealed joints to adjacent surfaces. Note: For the purposes of this specification, vapor impermeable air barriers are classified as vapor retarders.

C. Vapor Retarder: Air tight barrier made of material that is relatively water vapor impermeable, to the degree specified, with sealed seams and with sealed joints to adjacent surfaces.
   1. Water Vapor Permeance: For purposes of conversion, 57.2 ng/(Pa s sq m) = 1 perm.

D. Water-Resistive Barrier: Water-shedding barrier made of material that is moisture resistant, to the degree specified, intended to be installed to shed water without sealed seams.

1.04 REFERENCE STANDARDS

A. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2020.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

C. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2023.

D. ASTM E2178 - Standard Test Method for Air Permeance of Building Materials; 2021a.

E. ICC-ES AC38 - Acceptance Criteria for Water-Resistive Barriers; ICC Evaluation Service, Inc.; 2019.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on material characteristics, performance criteria, limitations, and information on all accessory products to be included for a complete installation.

C. Shop Drawings: Provide drawings of special joint conditions.

D. Samples: Submit samples of materials to be used as vapor barrier, sample size shall be 6 inches square.

E. Manufacturer's Installation Instructions: Indicate preparation, installation methods, and storage and handling criteria.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: Company accredited and certified under the Air Barrier Association of America (ABAA) Quality Assurance Program (QAP).

1.07 ADMINISTRATIVE REQUIREMENTS

A. After product has been selected, applicator or said contractor to comply with technical training by manufacturer for proper installation practices, etc.

B. Upon completion of the installation by the applicator. Product manufacturer to provide certification that all work has been done in strict accordance with the contract specifications and manufacturer's requirements, an inspection shall be made by a Technical Representative of product(s) manufacturer to review the installed system.

1.08 QUALITY ASSURANCE

A. Vapor Permeability (Perm): Measure in accordance with ASTM E 96 Procedure E.

1.09 FIELD CONDITIONS

A. Maintain temperature and humidity recommended by the materials manufacturers before, during and after installation.

PART 2 PRODUCTS

2.01 WEATHER BARRIER ASSEMBLIES

A. BASIS OF DESIGN IS BASED ON DUPONT TYVEK WEATHER BARRIER SYSTEMS*

B. Water-Resistive Barrier: Provide on exterior walls under exterior cladding.
   1. Use building paper unless otherwise indicated.

C. Interior Vapor Retarder:
   1. On inside face of studs of exterior walls, under cladding, use mechanically fastened vapor retarder sheet.

2.02 WATER-RESISTIVE BARRIER MATERIALS (NEITHER AIR BARRIER NOR VAPOR RETARDER)

A. Building Paper: Asphalt-saturated Kraft building paper complying with requirements of ICC-ES AC38 Grade D.

2.03 WEATHER BARRIER MATERIALS (WATER VAPOR PERMEABLE AND WATER-RESISTIVE)

A. Air Barrier Sheet, Mechanically Fastened:
   1. Air Permeance: 0.004 cubic feet per minute per square foot, maximum, when tested in accordance with ASTM E2178.
   2. Water Vapor Permeance: 5 perms, minimum, when tested in accordance with ASTM E96/E96M Procedure A (desiccant procedure).
   3. Ultraviolet and Weathering Resistance: Approved in writing by manufacturer for minimum of 6 months weather exposure.
   4. Surface Burning Characteristics: Flame spread index of 25 or less, and smoke developed index of 50 or less, when tested in accordance with ASTM E84.
   5. Seam and Perimeter Tape: Polyethylene self-adhering type, mesh reinforced, 2 inches wide, compatible with sheet material; unless otherwise specified.
   6. Products:
      a. DuPont Building Innovations; Tyvek Commercial Wrap D with Tyvek Fluid Applied Flashing - Brush Formulation, Tyvek Fluid Applied Flashing and Joint Compound, FlexWrap NF, StraightFlash, StraightFlash VF, Tyvek Wrap Caps, and Tyvek Tape: www.dupont.com.
      b. Substitutions: See Section 01 60 00 - Product Requirements.

B. Air Barrier, Fluid Applied: Vapor permeable, elastomeric waterproofing.

C. Air Barrier Coating:
   1. Air Permeance: 0.004 cubic feet per minute per square foot, maximum, when tested in accordance with ASTM E2178.
   2. Water Vapor Permeance: 5 perms, minimum, when tested in accordance with ASTM E96/E96M, Procedure B.

2.04 APPLICATIONS

A. Inside Surface of Exterior Stud Walls: Sheet seal applied to stud faces.

B. Outside Surface of Sheathing: Fluid Applied and Commercial Wrap D. As applicable, see drawings.

2.05 VAPOR RETARDER MATERIALS (AIR BARRIER AND WATER-RESISTIVE)

A. Stud Walls and Truss Type Ceilings:
   1. Cross Laminated polyethylene meeting the requirements of ASTM E 1745, Class C and with the following minimum characteristics:
      a. Tensile Strength per ASTM E154, Section 9: 13.6 lbf/in.
      b. Puncture Resistance per ASTM D 1709, Method B: 475 grams.
      c. Permeance per ASTM E96: 0.045 perms.
   2. Wall and Ceiling Vapor Retarders shall be as manufactured by one of the following or approved equal:
      a. Raven Industries Inc. - Vapor Block 10; 1812 E. Ave., Sioux Falls, SD 57104; phone 800-635-3456.
      b. Reef Industries, Inc. - Type - 65; PO Box 750250, Houston, TX 77275-0250; phone 713-507-4200.
      c. Stego Industries LLC - Stego Wrap 10 mil Class C, 27442 Calle Arroyo, Suite A, San Juan, CA 92675; phone 877-464-7834.

2.06 ACCESSORIES

A. Sealants, Tapes, and Accessories for Sealing Weather Barrier and Sealing Weather Barrier to Adjacent Substrates: As specified or as recommended by weather barrier manufacturer.

B. Flexible Flashing: Self-adhesive sheet flashing complying with ASTM D1970/D1970M, except slip resistance requirement is waived if not installed on a roof.
   1. Products:
      a. DuPont Building Innovations; FlexWrap NF: www.dupont.com.
      b. DuPont Building Innovations; StraightFlash: www.dupont.com.
      c. DuPont Building Innovations; StraightFlash VF: www.dupont.com.

C. Furnish all sealants, sealing tapes, pipe boots and other accessories as required by the manufacturer for a complete installation.

D. Thinners and Cleaners: As recommended by material manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and conditions are ready to accept the work of this section.

3.02 PREPARATION

A. Remove projections, protruding fasteners, and loose or foreign matter that might interfere with proper installation.

B. Clean and prime substrate surfaces to receive tapes, adhesives and sealants in accordance with manufacturer's instructions.

3.03 INSTALLATION

A. Install materials in accordance with manufacturer's instructions.

B. Water-Resistive Barriers: Install continuous barrier over surfaces indicated, with sheets lapped to shed water but with seams not sealed.

C. Air Barriers: Install continuous air tight barrier over surfaces indicated, with sealed seams and with sealed joints to adjacent surfaces.

D. Vapor Retarders: Install continuous air tight barrier over surfaces indicated, with sealed seams and with sealed joints to adjacent surfaces.

E. Mechanically Fastened Sheets - On Exterior:
   1. Install sheets shingle-fashion to shed water, with seams generally horizontal.
   2. Overlap seams as recommended by manufacturer but at least 6 inches.

3. Overlap at outside and inside corners as recommended by manufacturer but at least 12 inches.
4. For applications specified to be air tight, seal seams, laps, penetrations, tears, and cuts with self-adhesive tape; use only large-headed, gasketed fasteners recommended by the manufacturer.
5. Install water-resistive barrier over jamb flashings.
6. Install air barrier and vapor retarder UNDER jamb flashings.
7. Install head flashings under weather barrier.
8. At openings to be filled with frames having nailing flanges, wrap excess sheet into opening; at head, seal sheet over flange and flashing.

F. Mechanically Fastened Sheets - Vapor Retarder on Interior:
1. When insulation is to be installed in assembly, install vapor retarder over insulation.
2. Seal seams, laps, perimeter edges, penetrations, tears, and cuts with self-adhesive tape, making air tight seal.
3. Locate laps at a framing member; at laps fasten one sheet to framing member then tape overlapping sheet to first sheet.
4. Seal entire perimeter to structure, window and door frames, and other penetrations.
5. Where conduit, pipes, wires, ducts, outlet boxes, and other items are installed in insulation cavity, pass vapor retarder sheet behind item but over insulation and maintain air tight seal.

G. Coatings:
1. Prepare substrate in manner recommended by coating manufacturer; treat joints in substrate and between dissimilar materials as recommended by manufacturer.
2. Use flashing to seal to adjacent construction and to bridge joints.

H. Openings and Penetrations in Exterior Weather Barriers:
1. Install flashing over sills, covering entire sill frame member, extending at least 5 inches onto weather barrier and at least 6 inches up jambs; mechanically fasten stretched edges.
2. At openings to be filled with frames having nailing flanges, seal head and jamb flanges using a continuous bead of sealant compressed by flange and cover flanges with at least 4 inches wide; do not seal sill flange.
3. At openings to be filled with non-flanged frames, seal weather barrier to all sides of opening framing, using flashing at least 9 inches wide, covering entire depth of framing.
4. At head of openings, install flashing under weather barrier extending at least 2 inches beyond face of jambs; seal weather barrier to flashing.
5. At interior face of openings, seal gap between window/door frame and rough framing, using joint sealant over backer rod.
6. Service and Other Penetrations: Form flashing around penetrating item and seal to weather barrier surface.

3.04 INSTALLATION - WALLS AND CEILINGS

A. Install air and vapor seal materials and assemblies in conjunction with materials described in other sections to provide continuous sealed barrier in the exterior enclosure of the building.

B. In exterior stud-framed walls, attach sheet seal to inside stud faces with tape. Lap edges over stud faces, seal laps with tape. Lap ends onto adjacent construction; seal ends with sealant.

C. At pipes and other penetrations vapor barrier shall be tightly fit around penetration and tape sealed to it. At electrical boxes vapor barrier shall be tucked around the back side of the box and sealed. Vapor barrier shall be fastened to the bearing plate at the buildings exterior walls and shall completely seal off the insulation from the inside of the building.

D. At junction of exterior wall and roof lap wall sheet seal onto roofing vapor retarder and attach with tape. Seal lap with tape. Position lap seal over firm bearing.

E. At window openings install sheet seal between frame and adjacent wall seal material and attach with adhesive. Seal laps with tape. Position lap seal over firm bearing.

F. Apply sealants and adhesives within recommended application temperature ranges. Consult manufacturer if temperature is out of this range.

END OF SECTION

SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including coping, flashings, counterflashings.

B. Sealants for joints within sheet metal fabrications.

C. Reglets and accessories.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 – Rough Carpentry: Related.

B. Section 07 90 05 - Joint Sealers.

1.03 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

B. ASTM B32 - Standard Specification for Solder Metal; 2020.

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

D. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2018).

E. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

C. Samples: Submit samples illustrating metal finish color for selection by Architect.

1.06 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 5 years of documented experience.

1.07 PRE-INSTALLATION CONFERENCE

A. Convene one week before starting work of this section.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Pre-Finished Galvanized Steel: ASTM A 653/A 653M, with G90/Z275 zinc coating; minimum inch thick base metal, shop pre-coated with Kynar 500 coating, color as selected.

B. Coping and other metals exposed to view shall be 24 gauge hot dipped galvanized steel, G-90 commercial quality, extra smooth primed and finished one side with 70% Kynar 500 Based Fluoropolymer Coating 1.0 +/- 0.1 mil total dryfilm thickness. A wash coat of .3 - .4 mil dryfilm thickness shall be applied to the reverse side. Metal sheet stock shall be as manufactured by one of the following or approved equal:
   1. Berridge Manufacturing Company - Coil Stock
   2. Peterson Aluminum Corp. PAC- CLAD;
   3. Metal Sales Manufacturing Corp. - Coil Stock
   4. Vincent Metals - Colorklad
   5. AEP Span - Sheet Stock
   6. Copper Sales, Inc. - UNA-CLAD
   7. McElroy Metal, Inc. - Flat Stock

2.02 ACCESSORIES

A. Fasteners: Galvanized steel, with soft neoprene washers.

B. Primer: Zinc chromate type.

C. Sealant to be Concealed in Completed Work: Non-curing butyl sealant.

D. Sealant to be Exposed in Completed Work: 1; elastomeric sealant, 100 percent silicone with minimum movement capability of plus/minus 25 percent and recommended by manufacturer for substrates to be sealed; clear.

E. Sealant: Type specified in Section 07 90 05.

F. Plastic Cement: ASTM D4586, Type I.

G. Reglets: Surface mounted type, of Kynar colored metal.

H. Solder: 1; Sn50 (50/50) type.

2.03 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

B. Fabricate cleats of same material as sheet, interlocking with sheet.

C. Form pieces in longest possible lengths, but not exceeding 10 feet.

D. Hem exposed edges on underside 1/2 inch; miter and seam corners.

E. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

F. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.

G. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.

H. Fabricate flashings to allow toe to extend 2 inches over roofing gravel. Return and brake edges.

I. Fabricate copings to the size and shape as shown on drawings. No individual section of coping shall exceed ten feet in length. Copings shall be continuously held at their bottom edge with a keeper strip

J. Joints in coping shall be covered with a 6 inch wide cleat bent to the profile of the coping.

K. Metal counterflashing shall be the type of flashing locked in to the mortar joint by springlock action and tight to the wall at the bottom edge with Spring Action Contact fabricated to the size and configuration shown on drawings.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 INSTALLATION

A. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.

B. Apply plastic cement compound between metal flashings and felt flashings.

C. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.

D. Seal metal joints watertight.

E. Install sheet metal coping and other metal exposed to view as shown on drawings using recognized sheet metal practices as per the Sheet Metal and Air Conditioning Contractors National Association, Inc. - Architectural Sheet Metal Manual.

F. Bottom edge of all coping shall be held in place with a continuous keeper strip.

G. Joints in coping shall be set in mastic and butted to allow for expansion. Joint shall be covered with a 6" wide cleat.

H. After metal coping, or flashing is in place, remove strippable film protection.

END OF SECTION

SECTION 07 84 00
FIRESTOPPING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Firestopping systems.

B. Firestopping of all joints and penetrations in fire resistance rated and smoke resistant assemblies, whether indicated on drawings or not, and other openings indicated.

1.02 REFERENCE STANDARDS

A. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; recent edition.

B. ASTM E814 - Standard Test Method for Fire Tests of Through-Penetration Fire Stops; Recent edition.

C. ITS (DIR) - Directory of Listed Products; current edition.

D. FA (AG) - FM Approval Guide; Factory Mutual Research Corporation; current edition.

E. UL (FRD) - Fire Resistance Directory; current edition.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Schedule of Firestopping: List each type of penetration.

C. Product Data: Provide data on product characteristics.

D. Manufacturer's Installation Instructions: Indicate preparation and installation instructions.

E. Certificate from authority having jurisdiction indicating approval of materials used.

1.04 QUALITY ASSURANCE

A. Fire Testing: Provide firestopping assemblies of designs that provide the scheduled fire ratings when tested in accordance with methods indicated.
   1. Listing in the current-year classification or certification books of UL, FM, or ITS (Warnock Hersey) will be considered as constituting an acceptable test report.
   2. Current evaluation reports published by CABO, ICBO, or BOCA will be considered as constituting an acceptable test report.
   3. Submission of actual test reports is required for assemblies for which none of the above substantiation exists.

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

C. Installer Qualifications: Company specializing in performing the work of this section and:
   1. Trained by manufacturer.

1.05 FIELD CONDITIONS

A. Comply with firestopping manufacturer's recommendations for temperature and conditions during and after installation. Maintain minimum temperature before, during, and for 3 days after installation of materials.

PART 2 PRODUCTS

2.01 FIRESTOPPING - GENERAL REQUIREMENTS

A. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Type required for tested assembly design.

2.02 FIRESTOPPING SYSTEMS

A. Firestopping: Any material meeting requirements.
   1. Fire Ratings: Use any system that is listed by FM, ITS (DIR), or UL (FRD) and tested in accordance with ASTM E814 or ASTM E119 with F Rating equal to fire rating of

penetrated assembly and minimum T Rating Equal to F Rating and in compliance with other specified requirements.

B. Manufacturer's:
   1. Fire stopping and fire safing products shall be UL or Warnock Hersey Rated Systems as manufactured by one of the following or approved equal:
      a. Rectorseal Corporation, Metacaulk
      b. Isolatek International, Cafco
      c. 3M
      d. The General Electric Company
      e. Nelson Firestop Products
      f. Hilti Construction Chemicals
      g. Tremco Construction Division
      h. United States Gypsum Company

2.03 MATERIALS

A. Elastomeric Silicone Firestopping: Single component silicone elastomeric compound and compatible silicone sealant.

B. Foam Firestoppping: Single component foam compound.

C. Fibered Compound Firestopping: Formulated compound mixed with incombustible non-asbestos fibers.

D. Fiber Packing Material: Mineral fiber packing insulation.

E. Firestop Devices: Mechanical device with incombustible filler and sheet stainless steel jacket;

F. Intumescent Putty: Compound which expands on exposure to surface heat gain.

G. Firestop Pillows: Formed mineral fiber pillows

H. Primers, Sleeves, Forms, Insulation, Packing, Stuffing, and Accessories: Type required for tested assembly design.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify openings are ready to receive the work of this section.

3.02 PREPARATION

A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter that could adversely affect bond of firestopping material.

B. Remove incompatible materials that could adversely affect bond.

3.03 INSTALLATION

A. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.

B. Do not cover installed firestopping until inspected by authorities having jurisdiction.

C. Install labeling required by code.

3.04 CLEANING

A. Clean adjacent surfaces of firestopping materials.

3.05 PROTECTION

A. Clean adjacent surfaces of firestopping materials.

B. Protect adjacent surfaces from damage by material installation.

END OF SECTION

SECTION 07 90 05
JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sealants and joint backing.

1.02 REFERENCE STANDARDS

A. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016 (Reapproved 2023).

B. ASTM D1667 - Standard Specification for Flexible Cellular Materials--Poly(Vinyl Chloride) Foam (Closed-Cell); 2005 (Reapproved 2011).

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data indicating sealant chemical characteristics.

C. Samples: Submit two samples, in size illustrating sealant colors for selection.

1.04 QUALITY ASSURANCE

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

B. Applicator Qualifications: Company specializing in performing the work of this section with minimum three years documented experience and approved by manufacturer.

1.05 FIELD CONDITIONS

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

1.06 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

B. Correct defective work within a five year period after Date of Substantial Completion.

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

PART 2 PRODUCTS

2.01 SEALANTS

A. Non-sag Urethane - Caulking compound shall be one-part polyurethane caulking compound, that meets or exceeds the requirements of Fed. Spec. TT-S-00230C. Compound shall be as recommended by the manufacturer for use without a paint finish and shall form a tough elastic film on the surface, but remain plastic underneath. It shall contain no ingredients which will stain masonry or corrode metals. Color of compound shall be as selected by the Architect. At the contractor’s option he may use two-part caulking compound of the same materials as those specified herein. Caulking compound shall be one of the following or approved equal:
   1. Mameco International - Vulkem 116 or 227
   2. Sika Chemical Co. - Sika-Flex 1a or 2c NS
   3. Sonneborne - Sonolastic NP1 or NP2
   4. Tremco - Dymonic or Dymeric
   5. Pecora - Dynatrol I or Dynatrol II
   6. PRC - Permapol RC1 or Permapol RC2
   7. Bostick - Chem-Calk 500
   8. May National Associates - Bondaflex PUR 25

B. Interior Silicone - Silicone sealant for joints along backsplash on counters, shelves, cabinets and plumbing fixtures shall be one of the following or approved equal:
   1. General Electric - Sanitary 1700
   2. Dow Corning - 786 Mildew resistant
   3. May National Associates - Sil 100 WF

C. Self-Leveling Horizontal Urethane – Self-Leveling caulking compound shall be self-leveling or slope grade Two-component Polyurethane Sealant for expansion and contraction joints in concrete floors, walks, paving and decks both interior and exterior, and joints in hard surface floor finish materials such as quarry tile, ceramic tile and terrazzo. Horizontal grade urethane shall remain flexible to -400, shall be abrasion resistant and resist deterioration caused by weather, stress, movement, traffic, water, oils, and road chemicals. Self-Leveling caulking shall be suitable for continuous water immersion. Self-Leveling Caulking shall be as manufactured by one of the following or approved equal:
   1. Sonneborn - SL 2 Sealant
   2. Pecora - Urexpan NR-300
   3. Tremco - THC-900/901
   4. Sika Chemical Co. - Sikaflex 2c SL
   5. Mameco International - Vulkem 245
   6. PRC - Permapol RC-2SL
   7. Bostick - Chem-Calk 550
   8. May National Associates - Bondaflex PUR 2 NS & SL

2.02 ACCESSORIES

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

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

C. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width. Sub-caulking shall be one of the following or approved equal:
   1. Dow Chemical - Etha-Foam.
   2. Williams Products - Expand-O Foam.
   3. Grace Co. - Foam Joint Filler.
   4. Sonneborn - Sonofoam Closed Cell Backer Rod.

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

PART 3 EXECUTION

3.01 EXAMINATION

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

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

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

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

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

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

3.03 INSTALLATION

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

B. Perform installation in accordance with ASTM C1193.

C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.

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

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

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

G. Tool joints concave.

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

3.04 CLEANING

A. Clean adjacent soiled surfaces.

3.05 PROTECTION

A. Protect sealants until cured.

3.06 SCHEDULE

A. Caulking and sealants specified under this Section shall be installed at the intersection of all dissimilar materials not mechanically or adhesively attached to each other, at the expansion and contraction joints of similar or dissimilar materials, and where it is necessary to provide a smooth transition between materials of differing shapes. The following list of areas to be caulked or sealed is intended as a general guide to this Contractor and does not relieve the contractor of providing caulking to all areas shown on the drawings and that fit the above definition:
   1. Non-sag Urethane:
      a. Gypsum Drywall Control Joints as shown on drawings.
      b. Around the frames of Doors, Windows & Louvers - each exposed side.
      c. Vertical concrete, and masonry control and expansion joints.
      d. Under door thresholds - at the inside and outside edge of the threshold.
      e. Flashing reglet terminations.
      f. Where gypsum drywall intersects concrete, masonry, wood or other dissimilar material.
      g. Where exterior window sills intersect walls and window frames.
      h. Joints in vertical ceramic tile and other hard surface materials.
      i. All other Joints noted on Drawings as "Caulk" or "Sealant".
      j. All joints which meet the definition of paragraph "A" above.
   2. Interior Silicone:
      a. Along Backsplash of Counters & Edges of Casework at Walls.
      b. Along the Edges of Plumbing Fixtures at Walls
      c. Along the edges, or as seating for Toilet Accessories.
      d. As a seating for sinks and other items mounted into countertops.
   3. Self-Leveling Horizontal Urethane:
      a. Horizontal and sloped expansion joints in floors and decks.
      b. Horizontal and sloped expansion and control joints in interior hard surface flooring materials.

END OF SECTION

SECTION 08 11 13
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-fire-rated hollow metal doors and frames.

B. Fire rated hollow metal doors and frames.

C. Hollow metal frames for wood doors.

D. Thermally insulated hollow metal doors with frames.

E. Hollow metal borrowed lites glazing frames.

1.02 RELATED REQUIREMENTS

A. Section 08 71 00 - Door Hardware.

B. Section 08 80 00 - Glazing: Glass for doors and borrowed lites.

C. Section 09 90 00 - Painting and Coatings: Field painting.

1.03 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.

B. ANSI/ICC A117.1 - American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; 2017.

C. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2011.

D. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2017.

E. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2011.

F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2020.

G. BHMA A156.115 - American National Standard for Hardware Preparation in Steel Doors and Steel Frames; 2016.

H. NAAMM HMMA 840 - Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames; 2007.

I. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2019.

J. UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.

K. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.

C. Manufacturer's Certificate: Certification that products meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

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

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

C. Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document that prescribes installation requirements.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Hollow Metal Doors and Frames:
   1. Ceco Door Products: www.cecodoor.com.
   2. Republic Doors: www.republicdoor.com.
   3. Steelcraft: www.steelcraft.com.
   4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 DESIGN CRITERIA

A. Requirements for All Doors and Frames:
   1. Standard conventional for commercial applications.
   2. Door Top Closures: Flush with top of faces and edges.
   3. Door Texture: Smooth faces.
   4. Hardware Preparation: In accordance with BHMA A156.115, with reinforcement welded in place, in addition to other requirements specified in door grade standard.
   5. Galvanizing for Units in Wet Areas: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness
   6. Finish: Factory primed, for field finishing.

B. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.03 HOLLOW METAL DOORS

A. Exterior Doors: N/A.
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 3 - Heavy-duty.
      b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 16 gage, minimum.
   2. Core Material: Manufacturers standard core material/construction; styrene and in compliance with requirements.
   3. Door Thickness: 1-3/4 inch, nominal.
   4. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed; A-60) in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness.
   5. Weatherstripping: Refer to Section 08 71 00.

B. Interior Doors, Non-Fire Rated:
   1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
      a. Level 1 - Standard-duty.
      b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
      c. Model 1 - Full Flush.
      d. Door Face Metal Thickness: 18 gage, minimum.
   2. Core Material: Manufacturers standard core material/construction and in compliance with requirements.
   3. Door Thickness: 1-3/4 inch, nominal.

C. Interior Doors, Fire-Rated:
   1. Grade: ANSI/SDI A250.8 (SDI-100); Level 1 - Standard-Duty, Physical Performance Level C, Model 1 - Full Flush.
   2. Fire Rating: As indicated on Door and Frame Schedule, tested in accordance with UL 10C ("positive pressure").
      a. Provide units listed and labeled by UL (Underwriters Laboratories) - UL (BMD).
      b. Attach fire rating label to each fire rated unit.
   3. Smoke and Draft Control Doors (Indicated as "S" on Drawings): In addition to required fire rating, provide door assemblies tested in accordance with UL 1784 with maximum air leakage of 3.0 cfm per sq ft of door opening at 0.10 inch w.g. pressure at both ambient and elevated temperatures; with "S" label; if necessary, provide additional gasketing or edge sealing.

2.04 HOLLOW METAL FRAMES

A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.

B. General:
   1. Comply with the requirements of grade specified for corresponding door.
      a. ANSI A250.8 Level 2 Doors: 14 gage frames.
      b. ANSI/SDI A250.8 (SDI-100), Level 2 and 3 Door Frames: 14 gage, 0.067 inch, minimum thickness. Exterior 14 gage, Interior 16 gage.
      c. Frames for Wood Doors: Comply with frame requirements in accordance with ANSI/SDI A250.8 (SDI-100), Level 1, 16 gage, 0.042 inch, minimum thickness.
   2. Finish: Same as for door.
   3. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.
   4. Frames Wider than 48 Inches: Reinforce with steel channel fitted tightly into frame head, flush with top.
   5. Frames Installed Back-to-Back: Reinforce with steel channels anchored to floor and overhead structure.

C. Exterior Door Frames: N/A.
   1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed; A-60) in accordance with ASTM A653/A653M, with A40/ZF120 coating.
   2. Weatherstripping: Separate, see Section 08 71 00.

D. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.

E. Interior Door Frames, Knock down type: Die-mitered corner connections; tab/lock design, Compression anchors, silencers. See drawings for applicable types.
   1. DW Series: adjustable base anchors allow for attachment directly to the wall sill runner and facilitate installation adjustment when the floor is not level
   2. K Series: sill attachment is made through the frame face, directly into the wall sill runner; bottom of frame face is supplied with factory countersunk holes for screw attachment

F. Interior Door Frames, Fire-Rated: Face welded type.
   1. Fire Rating: Same as door, labeled.

G. Frames for Wood Doors: Comply with frame requirements in accordance with corresponding door.

2.05 ACCESSORIES

A. Glazing: As specified in Section 08 80 00, factory installed.

B. Grout for Frames: Portland cement grout with maximum 4 inch slump for hand troweling; thinner pumpable grout is prohibited.

C. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.

D. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

2.06 FINISHES

A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

B. Bituminous Coating: Asphalt emulsion or other high-build, water-resistant, resilient coating.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 PREPARATION

A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.03 INSTALLATION

A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.

B. In addition, install fire rated units in accordance with NFPA 80.

C. Coordinate frame anchor placement with wall construction.

D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.

E. Coordinate installation of hardware.

F. Coordinate installation of glazing.

3.04 ADJUSTING

A. Adjust for smooth and balanced door movement.

3.05 SCHEDULE

A. Refer to Door and Frame Schedule on the drawings.

B. Hollow Metal Doors:
   1. Interior – 18 Gage
   2. Exterior – 16 Gage

C. Hollow Metal Frames:
   1. Interior – 16 Gage
   2. Exterior – 14 Gage
   3. Wood Door Frames – 16 Gage

END OF SECTION

SECTION 08 14 16
FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Doors; flush and flush glazed configuration: non-rated, standard.

1.02 RELATED REQUIREMENTS

A. Section 08 11 13 - Hollow Metal Doors and Frames.

B. Section 08 71 00 - Door Hardware.

C. Section 08 80 00 - Glazing.

1.03 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014 with Errata (2018).

B. ITS (DIR) - Directory of Listed Products; Intertek Testing Services NA, Inc.; current edition.

C. UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.

D. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

E. WDMA I.S. 1A - Interior Architectural Wood Flush Doors; Window and Door Manufacturers Association; 2021. (ANSI/WDMA I.S. 1A) Errata 2022.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.

D. Specimen warranty.

E. Samples: Submit two samples of door veneer, illustrating wood grain, stain color, and sheen.

F. Warranty, executed in Owner's name.

1.05 QUALITY ASSURANCE

A. Perform work in accordance with AWS Architectural Woodwork Standards, Section 9, Custom Grade.

B. Finish doors in accordance with AWS Architectural Woodwork Standards, Section 5.

1.06 REGULATORY REQUIREMENTS AS REQUIRED

A. Fire Door Construction: Conform to NFPA 252.

B. Installed Fire Rated Door and Transom Panel Assembly: Conform to NFPA 80 for fire-rating as indicated.

C. Smoke and Draft Control Doors: In addition to required fire rating, comply with air leakage requirements of UBC Std 7-2, Part II; with "S" label; if necessary, provide additional gasketing or edge sealing.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Package, deliver and store doors in accordance with specified quality standard.

B. Accept doors on site in manufacturer's packaging. Inspect for damage.

C. Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.

1.08 PROJECT CONDITIONS

A. Coordinate the work with door opening construction, door frame and door hardware installation.

1.09 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Interior Doors: Provide manufacturer's warranty for the life of the installation.

C. Provide warranty for the following term:
   1. Interior Doors: Life of installation.

D. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Wood Veneer Faced Doors: Basis of Design – VT Industries.

B. Veneer Doors, 5 Ply:
   1. Marshfield Door Systems, Inc.
   2. Construction Specialties Inc.
   3. VT Industries
   4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 DOORS

A. Doors: See drawings for locations and additional requirements.
   1. Quality Level: Custom Grade, in accordance with AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, Section 1300.
   2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.

B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at each location.
   2. Fire Rated Doors as required: Tested to 20 minutes, 60 minutes, 90 minutes, and ratings as indicated on drawings in accordance with UL 10C - Positive Pressure; Underwriters Laboratories Inc. (UL) or Intertek/Warnock Hersey (WHI) labeled without any visible seals when door is open.
   3. Smoke and Draft Control Doors: Tested to ratings indicated on drawings in accordance with International Building Code; UL labeled if required by applicable code; provide gasketing as specified by listing.
   4. Wood veneer facing factory finished as indicated on drawings.

2.03 DOOR AND PANEL CORES

A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.

B. Sound Rated Doors: Equivalent to type, with particleboard core (PVC) construction as required to achieve STC rating specified; plies and faces as indicated.

2.04 DOOR SCHEDULE

A. Veneer Facing: Grade in accordance with quality standard indicated, with book match, running match leaves assembled on door or panel face.

B. Wood Doors: VT Industries; Red Oak, Clear Finish, intent is to match existing.

2.05 ACCESSORIES

A. Wood, of same species as door facing, butted corners; prepared for countersink style tamper proof screws.

2.06 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Cores Constructed with stiles and rails:

C. Fabricate fire rated doors in accordance with UL requirements. Attach fire rating label to door.

D. Provide solid blocks at lock edge for hardware reinforcement.
   1. Provide solid blocking for other through bolted hardware.

E. Vertical Exposed Edge of Stiles - Veneer Faces: Of same species as veneer facing.

F. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

G. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.

H. Provide edge clearances in accordance with the quality standard specified.

2.07 FACTORY FINISHING - WOOD VENEER DOORS

A. Finish work in accordance with AWI/AWMAC/WI (AWS), Section 5 - Finishing for grade specified and as follows:
   1. Transparent:
      a. System - 9, UV Curable, Acrylated Epoxy, Polyester or Urethane.
      b. Stain: As selected by Architect.
      c. Sheen: Satin.

B. Seal door top edge with color sealer to match door facing.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and specified quality standard.
   1. Install fire-rated doors in accordance with NFPA 80 requirements.

B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.

C. Trim door height by cutting bottom edges to a maximum of 3/4 inch (19 mm).
   1. Trim fire door height at bottom edge only, in accordance with fire rating requirements.

D. Use machine tools to cut or drill for hardware.

E. Coordinate installation of doors with installation of frames and hardware.

F. Coordinate installation of glazing.

3.03 TOLERANCES

A. Conform to specified quality standard for fit and clearance tolerances.

B. Conform to specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

A. Adjust doors for smooth and balanced door movement.

B. Adjust closers for full closure.

3.05 SCHEDULE

A. **SEE PARAGRAPH 2.04 ABOVE, COORDINATE WITH DRAWINGS.**

END OF SECTION

SECTION 08 33 13
COILING COUNTER DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-fire-rated coiling counter doors and operating hardware, manual operation.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 – Rough Carpentry: Related.

1.03 REFERENCE STANDARDS

A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.

B. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturer's standard literature showing materials and details of construction and finish.

C. Shop Drawings: Indicate rough and actual opening dimensions, anchorage methods, hardware locations, and installation details.

D. Submit color selection chart for selection by the Architect.

E. Manufacturer's Instructions: Indicate installation sequence and installation, adjustment, and alignment procedures.

F. Operation and Maintenance Data: Indicate modes of operation, lubrication requirements and frequency, and periodic adjustments required.

G. Project Record Documents: Include as-built electrical diagrams for electrical operation and connection to fire alarm system.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Coiling Counter Doors: Basis of Design – Overhead Door Corp; Product 651.
   1. Cornell Iron Works, Inc.; Product Model: Rolling Counter Door.
   2. Raynor: Product Model CA.
   3. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 COILING COUNTER DOORS

A. Stainless Steel Counter Doors: Overhead Door Corporation, 651 Series.
   1. Wall Mounting Condition: Face-of-wall mounting.
   2. Curtain: Interlocking slats, Type F-158 fabricated of 22 gauge stainless stee. Endlocks attached to alternate slats to maintain curtain alignment and prevent lateral slat movement.
   3. Finish:
      a. Slats and hood stainless steel with a No. 4 stainless steel finish.
      b. Non-galvanized exposed ferrous surfaces shall receive one coat of rust-inhibitive primer.
   4. Bottom Bar: Single stainless steel angle bottom bar.
   5. Guides: Stainless steel shapes. Continuous to retain door in place.
   6. Brackets: Steel plate to support counterbalance, curtain and hood.
   7. Counterbalance: Helical torsion spring type housed in a steel tube or pipe barrel.

8. Hood: Provided with intermediate support brackets as required and fabricated of stainless steel.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that opening sizes, tolerances and conditions are acceptable.

3.02 INSTALLATION

A. Install units in accordance with manufacturer's instructions.

B. In addition, install fire-rated doors in accordance with NFPA 80 as applicable.

C. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.

D. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.

E. Fit and align assembly including hardware; level and plumb, to provide smooth operation.

F. Complete wiring from fire alarm system.

3.03 TOLERANCES

A. Maintain dimensional tolerances and alignment with adjacent work.

B. Maximum Variation from Plumb: 1/16 inch (1.5 mm).

C. Maximum Variation from Level: 1/16 inch (1.5 mm).

D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch per 10 ft (3 mm per 3 m) straight edge.

3.04 ADJUSTING

A. Adjust operating assemblies for smooth and noiseless operation.

3.05 CLEANING

A. Clean installed components.

B. Remove labels and visible markings.

END OF SECTION

SECTION 08 71 00
DOOR HARDWARE

PART 1 - GENERAL

1.1 CONDITIONS

A. Conditions of the contract (General and Supplementary Conditions) and Division 01 - General Requirements, govern the work of this section.

B. This section includes all material, and related service necessary to furnish all finish hardware indicated on the drawings or specified herein.

C. Furnish UL listed hardware for all labeled and 20 min. openings in conformance with the requirements for the class of opening scheduled. Underwriters' requirements shall have precedence over specification where conflicts exist.

D. All work shall be in accordance with all applicable state and local building codes. Code requirements shall have precedence over this specification where conflicts exist.

1.2 WORK INCLUDED

A. This section includes the following:

1. Furnish door hardware (for hollow metal, wood and aluminum doors) specified herein, listed in the hardware schedule, and/or required by the drawings.
2. Cylinders for Aluminum Doors
3. Thresholds and Weather-stripping (Aluminum frame seals to be provided by aluminum door supplier)
4. Electro-Mechanical Devices
5. Access Control components and or systems specified within this section.

B. Where items of hardware are not definitely or correctly specified and is required for the intended service, such omission, error or other discrepancy should be directed to the Architect prior to the bid date for clarification by addendum. Otherwise furnish such items in the type and quantity established by this specification for the appropriate service intended.

1.3 RELATED WORK IN OTHER SECTIONS

A. This section includes coordination with related work in the following sections:

1. Division 06 Section "Finish Carpentry".
2. Division 06 Section
3. Division 08 Section "Hollow Metal Doors and Frames".
4. Division 08 Section "Wood Doors"
5. Division 08 Section "Aluminum Entrances and Storefronts"
6. Division 26 Sections “Electrical”
7. Division 28 Sections "Electronic Safety and Security".

1.4 REFERENCES

A. Publications of agencies and organizations listed below form a part of this specification section to the extent referenced.

1. DHI - Recommended Locations for Builders' Hardware.
2. NFPA 80 - Standards for Fire Doors and Windows.
3. NFPA 101 - Code for Safety to Life from Fire in Buildings and Structures.
4. UL - Building Material Directory.
5. DHI - Door and Hardware Institute
6. WHI - Warnock Hersey
7. BHMA - Builders Hardware Manufacturers Association
8. ANSI – American National Standards Institute
9. IBC - International Building Code 2018 Edition (as adopted and amended by local building code)

1.5 SUBMITTALS

A. Within ten days after award of contract, submit detailed hardware schedule in quantities as required by Division 01 - General Requirements.

B. Schedule format shall be consistent with recommendations for a vertical format as set forth in the Door & Hardware Institute's (DHI) publication "Sequence and Format for the Hardware Schedule". Hardware sets shall be consolidated to group multiple door openings which share similar hardware requirements. Schedule shall include the following information:

1. Door number, location, size, handing, and rating.
2. Door and frame material, handing.
3. Degree of swing.
4. Manufacturer
5. Product name and catalog number
6. Function, type and style
7. Size and finish of each item
8. Mounting heights
9. Explanation of abbreviations, symbols, etc.
10. Numerical door index, indicating the hardware set/ group number for each door.

C. The schedule will be prepared under the direct supervision of a certified Architectural Hardware Consultant (AHC), or certified Door Hardware Consultant (DHC) employed by the hardware distributor. The hardware schedule shall be signed and embossed or stamped with the DHI certification seal of the supervising AHC or DHC. The supervising AHC or DHC shall attend any meetings related to the project when requested by the architect.

D. Check the specified hardware for suitability and adaptability to the details and surrounding conditions.

E. Review drawings from related trades as required to verify compatibility with specified hardware. Indicate unsuitable or in compatible items, and proposed substitutions in the hardware schedule.

F. Provide documentation for all hardware to be furnished on labeled fire doors indicating compliance with positive pressure fire testing UL 10C.

G. Furnish manufacturers' catalog data for each item of hardware in quantities as required by Division 01 - General Requirements.

H. Submit a sample of each type of hardware requested by the architect. Samples shall be of the same finish, style, and function as specified herein. Tag each sample with its permanent location so that it may be used in the final work.

I. Furnish with first submittal, a list of required lead times for all hardware items.

J. After final approved schedule is returned, transmit corrected copies for distribution and field use in quantities as required by Division 01 - General Requirements.

K. Furnish approved hardware schedules, template lists, and pertinent templates as requested by related trades.

L. Furnish necessary diagrams, schematics, voltage and amperage requirements for all electro-mechanical devices or systems as required by related trades. Wiring diagrams shall be opening specific and include both a riser diagram and point to point diagram showing all wiring terminations.

M. After receipt of approved hardware schedule, Hardware supplier shall initiate a meeting including the owner’s representative to determine keying requirements. Upon completion of initial key meeting, hardware supplier shall prepare a proposed key schedule with symbols and abbreviations as set forth in the door and hardware institute’s publication “Keying Procedures, Systems, and Nomenclature”. Submit copies of owner approved key schedule for review and field use in quantities as required by Division 01 - General Requirements. Wiring diagrams shall be included in final submittals transmitted for distribution of field use.

1.6 QUALITY ASSURANCE

A. Manufacturers and model numbers listed are to establish a standard of function and quality. Similar items by approved manufacturers that are equal in design, function, and quality, may be considered for prior approval of the architect, provided the required data and physical samples are submitted for approval as set forth in Division 01 - General Requirements.

B. Where indicated in this specification, products shall be independently certified by ANSI for compliance with relevant ANSI/BHMA standards A156.1 - A156.36 – Standards for Hardware and Specialties. All products shall meet or exceed certification requirements for the respective grade indicated within this specification. Supplier shall provide evidence of certification when requested by the architect.

C. Obtain each type of hardware (hinges, latch & locksets, exit devices, closers, etc.) from a single manufacturer, although several may be indicated as offering products complying with requirements.

D. Electrical drawings and electrical specifications are based on the specific electrified hardware components specified in hardware sets. When electronic hardware components other than those indicated in hardware sets are provided, the supplier shall be responsible for all costs incurred by the design team and their consultants to review and revise electrical drawings and electrical specifications. Supplier shall also be responsible for any additional costs associated with required changes in related equipment, materials, installation, or final hook up to ensure the system will operate and function as indicated in the construction documents, including hardware set operational / functional descriptions.

E. All hardware items shall be manufactured no earlier than 6 months prior to delivery to site.

F. Hardware supplier shall be factory trained and certified by the manufacture to provide and support all computer managed locks and system components.

G. Installation of hardware shall be installed or directly supervised and inspected by a skilled installer certified by the manufacturer of locksets, door closers, and exit devices used on the project, or with not less than 3 years' experience in successful completion of projects similar in size and scope.

H. Provide hardware for all labeled fire doors, which complies with positive pressure fire testing UL 10C.

I. Comply with all applicable provisions of the standards referenced within section 1.4 of this specification.

J. Hardware supplier shall participate when reasonably requested to meet with the contractor and or architect to inspect any claim for incorrect or non-functioning materials; following such inspection, the hardware supplier shall provide a written statement documenting the cause and proposed remedy of any unresolved items.

1.7 DELIVERY, STORAGE AND HANDLING

A. Hardware supplier shall deliver hardware to the job site unless otherwise specified.

B. All hardware shall be delivered in manufacturers' original cartons and shall be clearly marked with set and door number.

C. Coordinate with contractor prior to hardware delivery and recommend secure storage and protection against loss and damage at job site.

D. Contractor shall receive all hardware and provide secure and proper protection of all hardware items to avoid delays caused by lost or damaged hardware. Contractor shall report shortages to the Architect and hardware supplier immediately after receipt of material at the job site.

E. Coordinate with related trades under the direction of the contractor for delivery of hardware items necessary for factory installation.

1.8 PRE-INSTALLATION MEETING

A. Schedule a hardware pre-installation meeting on site to review and discuss required door operating clearances and the installation of continuous hinges, locksets, door closers, exit devices, overhead stops, and electromechanical door hardware.

B. Meeting attendees shall be notified 7 days in advance and shall include: Architect, Contractor, Door Hardware Installers (including low voltage hardware), Manufacturers representatives for above hardware items, and any other effected subcontractors or suppliers.

C. All attendees shall be prepared to distribute installation manuals, hardware schedules, templates, and physical hardware samples.

1.9 WARRANTY

A. All hardware items shall be warranted against defects in material and workmanship as set forth in Division 01 - General Requirements.

B. Repair, replace, or otherwise correct deficient materials and workmanship without additional cost to owner.

PART 2 - PRODUCTS

2.1 FASTENERS

A. All exposed fasteners shall be Phillips head or as otherwise specified and shall match the finish of the adjacent hardware. All fasteners exposed to the weather shall be non-ferrous or stainless steel. Furnish correct fasteners to accommodate surrounding conditions.

B. Coordinate required reinforcements for doors and frames. Seek approval of the architect prior to furnishing through-bolts. Furnish through-bolts as required for materials not readily reinforced.

2.2 BUTT HINGES

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Stanley	Hager	McKinney
1. Standard Weight, Plain Bearing	5PB1	F179	****	T2714
2. Standard Weight, Ball Bearing	5BB1	BB179	BB1279	TB2714
3. Standard Weight, Ball Bearing, Non-Ferrous	5BB1	FBB191	BB1191	TB2314
4. Heavy Weight, Ball Bearing	5BB1HW	FBB168	BB1168	T4B3786
5. Heavy Weight, Ball Bearing, Non-Ferrous	5BB1HW	FBB199	BB1199	T4B3386

B. Hinges shall be independently certified by ANSI for compliance with ANSI A156.1 (2006). Hinges shall meet or exceed the following ANSI grade requirements as indicated below:

1. Standard Weight, Plain Bearing Hinges: Grade 3
2. Standard Weight, 2 Ball Bearing Hinges: Grade 2
3. Heavy Weight, 4 Ball Bearing Hinges: Grade 1

C. Unless otherwise specified, furnish the following hinge quantities for each door leaf.

1. 3 hinges for doors up to 90 inches.
2. 1 additional hinge for every 30 inches on doors over 90 inches.
3. 4 hinges for Dutch door applications.

D. Unless otherwise specified, top and bottom hinges shall be located as specified in Division 08 Section "Hollow Metal Doors and Frames". Intermediate hinges shall be located equidistant from others.

E. Unless otherwise specified, furnish hinge weight and type as follows:

1. Standard weight: plain bearing hinge 5PB1 or ball bearing hinge 5BB1 for interior openings through 36 inches wide without a door closer.
2. Standard weight: ball bearing hinge 5BB1 for interior opening over 36 through 40 inches wide without a door closer, and for interior openings through 40 inches wide with a door closer.

3. Heavyweight: 4 ball bearing hinge 5BB1HW for interior openings over 40 inches wide, and for all vestibule doors.
4. Heavyweight: 4 ball bearing hinge 5BB1HWss for exterior openings unless otherwise listed in groups.
5. Heavyweight: 4 ball bearing hinge 5BB1HWss 5” for all exterior doors or 4 ball bearing hinge 5BB1HW 5” for interior doors, that have an automatic operator.

F. Unless otherwise specified, furnish hinges for exterior doors, fabricated from brass, bronze, or stainless steel. Unless otherwise specified, hinges for interior doors may be fabricated from steel.

G. Unless otherwise specified, furnish hinges in the following sizes:

1. 5" x 5" 2-1/4" thick doors
2. 4-1/2" x 4-1/2" 1-3/4" thick doors
3. 3-1/2" x 3-1/2" 1-3/8" thick doors

H. Furnish hinges with width to accommodate trim and allow for 180-degree swing.

I. Unless otherwise specified, furnish hinges with flat button tips with non-rising pins at interior doors, non-removable loose pins (NRP) at exterior, and out-swinging lockable interior doors.

J. Unless otherwise specified, furnish all hinges to template standards.

2.3 CONTINUOUS PIN AND BARREL HINGES

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Markar	Stanley
1. Edge Mount Pin & Barrel Stainless Steel Continuous Hinge	700 Series	300 Series	650 Series

B. Hinges shall be independently certified by ANSI for compliance with ANSI A156.26, Grade 1 (2012).

C. Continuous hinges shall be full height pin and barrel type hinge providing full height door support up to 600 lbs. Edge mount (unless noted otherwise).

D. Construct hinges of heavy-duty 14-gauge material. The stainless internal pin shall have a diameter of 0.25 and the exterior barrel diameter of 0.438.

E. Hinge shall be non-handed with symmetrical template hole pattern and factory drilled. Hinge must accept a minimum of 21 fasteners on the door and 21 fasteners on the frame.

F. Each knuckle to be 2 inches, including split nylon bearing at each separation for quiet, smooth, self-lubricating operation.

G. Hinge to be able to carry Warnock Hersey Int. or UL for fire rated doors and frames up to 3 hours.

H. Provide machine screws for doors which have been reinforced to accept machine screws.

I. Note: Fire label for doors and frames should be placed on the header and top rail of fire rated doors and frames.

2.4 PIVOTS

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Rixson
1. ¾” Offset Pivot Set (Heavy Duty)	7237	L117

B. Obtain pivots from a single manufacturer, although several may be indicated as offering products complying with requirements.

C. Unless otherwise specified, furnish the following pivot quantities for each door leaf.

1. Bottom Pivot: one each pivot per leaf.
2. Top Pivot: one each pivot per leaf.

3. Intermediate Pivots: Doors over 60" require the use of one intermediate pivot. Every additional 30" of door height warrants another intermediate pivot.

D. Unless otherwise specified, intermediate pivots and pocket pivots shall be located equidistant from others.

E. Pivot shall accommodate a maximum load of 1,750 pounds.

F. Unless otherwise specified, furnish pivots for exterior doors, fabricated from brass, bronze, or stainless steel. Pivots for fire doors shall be ferrous and match the finish of adjacent hardware.

G. Bottom pivots provided for exterior doors shall incorporate fully sealed bearings, cap seals, and corrosion resistant plating on bottom pin.

H. Provide extended length spindles as required to accommodate sill details.

I. Provide 1-1/2” offset when required by adjacent construction. Coordinate with related trades as required to ensure adjacent construction will not interfere with full range of door movement.

2.5 POWER TRANSFERS

A. Acceptable manufacturers and respective catalog numbers:

	Von Duprin	ASSA
1. Concealed Two Wire	EPT-2	CEPT-10
2. Concealed Ten Wire	EPT-10	CEPT-10

B. Door cords shall be armored cable with screw on caps.

C. Concealed power transfers shall be concealed in the door and frame when the door is closed.

D. Concealed power transfers shall have a steel tube to protect wires from being cut.

E. Concealed power transfers with spring tubes shall be rejected.

F. Concealed power transfers shall be supplied with a mud box to house all terminations.

2.6 FLUSH BOLTS AND DUST PROOF STRIKES

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Door Controls	Hager
1. Dust Proof Strike	DP2	80	280X
2. Auto Flush Bolt (Metal Door)	FB31P	842	292D
3. Auto Flush Bolt (Wood Door)	FB41P	942	291D
4. Constant Latching Bolt (Metal Door)	FB51P	845	293D
5. Constant Latching Bolt (Wood Door)	FB61P	945	294D
6. Manual Flush Bolt	FB458	780	282D

B. Unless otherwise specified, provide 12" rods for manual flush bolts for door 7'6" or less, 24" top rods for doors over 7'6" to 8'6".

C. Unless otherwise specified, provide doors over 8'6" with automatic top bolts.

D. Provide automatic flush bolts where required to maintain fire door listing and or egress requirements on pairs of doors.

E. All flush-bolt applications shall be UL listed to be installed with top flush-bolt only. Provide auxiliary fire bolt as required for fire rated openings where less bottom bolt has been specified.

F. Provide all bottom flush bolts with non-locking dust proof strikes.

2.7 EXIT DEVICES

A. Acceptable manufacturers and respective catalog numbers:

		Von Duprin	No Substitution
1.	Wide Stile, Push Pad	99 Series	
2.	Wide Stile, Electric Latch Retraction	QEL 98 / 99 Series	
3.	Lever Trim	996 Series	
4.	Pull Trim	990 Series	

B. Exit devices shall be independently certified by ANSI for compliance with ANSI A156.3, Grade 1 (2008).

C. Obtain exit devices from a single manufacturer, although several may be indicated as offering products complying with requirements.

D. All exit devices shall be equipped with a sound-dampening feature to reduce touch pad return noise.

E. Quiet Electric Latch Retraction shall be accomplished using a motor driven assembly, and shall incorporate the following features:

1. Motor shall retract both the push pad assembly and latchbolt.
2. Automatic calibration of latch throw and pull.
3. Built-in time delay.
4. On-board installation and troubleshooting diagnostics built into power supply and device.
5. Retry mode if device does not pull on the first try.

F. On full glass doors there shall be no exposed fasteners on the back of the mechanism visible through the glass.

G. All exit devices shall be provided with flush end caps to reduce potential damage from impact.

H. All exit devices shall be provided with dead-locking latch bolts to ensure security.

I. All exit devices shall be U.L. listed for accident hazard. Exit device for use on fire doors shall also be U.L. listed for fire exit hardware.

J. Provide optional strikes, special length rods, and adapter plates to accommodate door and frame conditions. Provide narrow style series devices in lieu of wide stile series devices where optional strikes will not accommodate door and frame conditions.

K. Coordinate with related trades to ensure adequate clearance and reinforcement is provided in doors and frames. Provide thru bolts as required.

L. Refer to hardware groups for exit device applications utilizing the option of: "less bottom rod and floor strike" (LBR)

M. All exit devices shall be provided with optional trim designs to match other lever and pull designs used on the project.

N. Provide glass bead kits as required to accommodate door conditions. Screws shall not be visible through full glass doors.

O. Where specified, provide compatible keyed mullions with cylinder for pairs of doors.

P. Provide Von Duprin #154 or equivalent mullion/frame stabilizers at the following application(s):

1. Lockable exterior or vestibule paired openings with a fixed or removable hollow metal or aluminum mullion.
2. Lockable exterior or vestibule single doors in aluminum frames.

Q. Provide reinforced crossbars for all traditional style exit devices applied to doors over 36" wide.

2.8 LOCKS AND LATCHES

A. Acceptable manufacturers and respective catalog numbers:

	Schlage	No Substitution
1. Grade 1 Mortise	L Series 06A	

B. Mortise locks shall be independently certified by ANSI for compliance with ANSI A156.13 (2012).

C. Minimize transmission of heat to lock trim. Provide temperature control modules (TCM) on all electrified locks when cataloged by the lock manufacturer.

D. Unless otherwise specified, all locks and latches to have:

1. 2-3/4" Backset
2. 1/2" minimum throw latchbolt
3. 1" throw deadbolt
4. 6 pin cylinders
5. ANSI A115.2 strikes

E. Provide guarded latch bolts for all locksets, and latch bolts with throw to maintain fire rating of both single and paired door assemblies.

F. Provide strike with lip length adequate to clear surrounding trim.

G. Provide wrought boxes for strikes at inactive doors, wood frames, and metal frames without integral mortar covers.

H. Provide Von Duprin #154 or equivalent mullion/frame stabilizers at the following application(s) unless provided with deadbolt:

1. Lockable exterior or vestibule paired openings with a fixed or removable hollow metal or aluminum mullion.
2. Lockable exterior or vestibule single doors in aluminum frames.

2.9 PULLS, PUSH BARS, PUSH/PULL PLATES

A. Acceptable manufacturers and respective catalog numbers:

	Burns	Hager	Ives
1. Straight Pull (1" dia., 10" CTC)	26C	4J	8103-0
2. Straight Pull (3/4” dia., 8” CTC)	25B	3G	8102-8
3. Offset Door Pull (1" dia., 10" CTC)	39C	12J	8190-0
4. Offset Pull (1” dia., 18” CTC Pull)	39G	23Q	8190-18
5. Pull / Push-Bar (1" dia., 10" CTC Pull)	422 x 26C	153	9103-0
6. Offset Pull / Push-Bar (1" dia., 10" CTC Pull)	422 x 39C	159	9190-0
7. Offset Pull / Push-Bar (1” dia., 18” CTC Pull)	422 x 39G	161	9190-18
8. Push Plate (.050 4"X 16")	54	30S 4 x 16	8200 4 x 16
9. Push Plate (.050 6"X 16")	56	30S 6 x 16	8200 6" X 16"
10. Pull Plate (1" dia., 10" CTC - .050" X 4" X 16")	5426C	34J 4 x 16	8303-0 4" X 16"

B. Adjust dimensions of push plates to accommodate stile and rail dimensions, lite and louver cutouts, and adjacent hardware. Where required by adjacent hardware, push plates shall be factory drilled for cylinders or other mortised hardware. All push plates shall be beveled 4 sides and counter sunk.

C. Where possible, provide back-to-back, and concealed mounting for pulls and push bars. Push bar length shall be 3" less door width, or center of stile to center of stile for stile & rail or full glass doors.

2.10 CLOSERS

A. Acceptable manufacturers and respective catalog numbers:

	LCN	No Substitution
1. 4011 /4111 EDA		

B. Door closers shall be independently certified by ANSI for compliance with ANSI A156.4, Grade 1 (2013).

C. Obtain door closers from a single manufacturer, although several may be indicated as offering products complying with requirements.

D. Provide extra heavy-duty arm (EDA / HD) when closer is to be installed using parallel arm mounting.

E. Hardware supplier shall coordinate with related trades to ensure aluminum frame profiles will accommodate specified door closers.

F. Provide “SPECIAL TEMPLATE - #1728 / #0723” closer arms as required to accommodate aluminum frame head details with “non-structural stops” when closers will be required to utilize parallel arm mounting positions. Frame mounting shoe shall be shortened, and pivot hub height shall be increased to permit frame mounted shoe to be positioned on frame rabbit (rather than the frame stop), and behind the frame stop rather than on top of the frame stop. Contact LCN Door Closers at: 877-671-7011 for pricing and design assistance.

G. Closers shall use high strength cast iron cylinders, forged main arms, and one-piece forged steel pistons.

H. Closers shall utilize a stable fluid withstanding temperature range of +120deg F to -30deg F without seasonal adjustment of closer speed to properly close the door. Closers for fire-rated doors shall be provided with temperature stabilizing fluid that complies with standards UL10C.

I. Unless otherwise specified, all door closers shall have full covers and separate adjusting valves for sweeps, latch, and backcheck.

J. Provide closers for all labeled doors. Provide closer series and type consistent with other closers for similar doors specified elsewhere on the project.

K. Provide closers with adjustable spring power. Size closers to ensure exterior and fire rated doors will consistently close and latch doors under existing conditions. Size all other door closers to allow for reduced opening force not to exceed 5 lbs.

L. Install closers on the room side of corridor doors, stair side of stairways and interior side of exterior doors.

M. Closers shall be furnished complete with all mounting brackets and cover plates as required by door and frame conditions, and by adjacent hardware.

N. Door closers shall be provided with a powder coat finish to provide superior protection against the effects of weathering. Powder coat finish shall successfully pass a 100 hour salt spray test.

O. Pressure Relief Valve, PRV, shall not be acceptable.

2.11 LOW ENERGY ELECTRO-MECHANICAL AUTOMATIC OPERATORS

A. Acceptable manufacturers and respective catalog numbers:

	Record	No Substitution
1. Electro-Mechanical Operator	6100	

B. Low energy operators shall be independently certified by ANSI for compliance with ANSI A156.19 (2002).

C. Where low kinetic energy, as defined by ANSI/BHMA Standard A156.19, power operators are indicated for doors required to be accessible to the disabled, provide electrically powered operators complying with the ADA for opening force and time to close standards.

D. Operator operation shall consist of Push button, push plate, switch-activated, manual or manual/electric power assisted Push 'N' Go opening with power boost closing and holding as specified in hardware sets.

E. Operators shall comply with ANSI A156.19, UL 325, and the American with Disabilities Act.

F. In event of power failure, make door operate manually with controlled spring close as though equipped with a #3 manual door closer, without damage to operator components.

G. Provide adjustment by microprocessor control for:

1. Opening speed.
2. Backcheck.
3. Hold-open, from 5 to 30 seconds.
4. Closing speed.
5. Opening force.
6. Acceleration during opening and recycling, for soft start.
7. Door will safely stop and reverse if an object is encountered in the opening or closing cycle.

H. Operator equipment shall be completely electromechanical and include the following features:

1. Close and center door against stop after each cycle, and hold against drafts, winds and stack pressure.
2. Manual opening force: 14 lb-force (62 N) maximum.
3. Closing force: 6 lb-force (26.6 N).
4. Factory-set door hold-open voltage.
5. Control box and motor/gear box shall be contained in protective housing; utilize precision-machined gears and bearing seats, all-weather lubricant, and shall be mounted on vibration isolators.
6. Gears shall be manufactured by operator manufacturer specifically for operators.
7. Motor shall consist of a DC permanent magnet motor with shielded ball bearings. Motor shall stop when door stops or is fully open and when breakaway is operated.
8. Door operating arm shall be fabricated from forged steel and attached at natural pivot point of door. Do not use slide block in top of door.
9. Exposed arms shall be factory-polished and finished to match operator enclosure.
10. Control circuits for actuators and safeties shall be low-voltage, NEC Class II.
11. Power operators will require 115 VAC power supply.

I. Enclosure shall consist of a extruded aluminum header concealing all operating parts except arms and manual control switches.

J. Exterior switches shall be weather resistant and mount on a single gang electrical box furnished by Division 26.

K. Power Operators shall be warranted by the manufacture to be free from defects in material and workmanship for a period of two years.

2.12 KICK PLATES AND MOP PLATES

A. Furnish protective plates as specified in hardware groups.

B. Where specified, provide 10" kick plates, 34" armor plates, and 4" mop plates. Unless otherwise specified, metal protective plates shall be .050" thick; plastic plates shall be 1/8" thick.

C. Protective plates shall be 2" less door width, or 1" less door width at pairs. All protective plates shall be beveled 4 sides and counter sunk.

D. Protection plates over 16" shall not be provided for labeled doors unless specifically approved by door manufacturers listing. When protection plates over 16” are provided for labeled doors, the plate shall be labeled.

E. Where specified, provide surface mounted door edges. Edges shall butt to protective plates. Provide edges with cutouts as required adjacent hardware.

F. Adjust dimensions of protection plates to accommodate stile and rail dimensions, lite and louver cutouts, and adjacent hardware. Where required by adjacent hardware, protection plates shall be factory drilled for cylinders or other mortised hardware.

2.13 OVERHEAD STOPS

A. Acceptable manufacturers and respective catalog numbers:

	Glynn-Johnson	Rixson	Sargent
1. Heavy Duty Surface Mount	GJ900 Series	9 Series	590
2. Heavy Duty Concealed Mount	GJ100 Series	1 Series	690

B. Unless otherwise specified, furnish GJ900 series overhead stop for hollow metal or 1-3/4" solid core doors equipped with regular arm surface type closers that swing more than 140 degrees before striking a wall, for hollow metal or 1-3/4" solid core doors that open against equipment, casework, sidelights, or other objects that would make wall bumpers inappropriate, and as specified in hardware groups.

C. Furnish sex bolt attachments for wood and mineral core doors unless doors are supplied with proper reinforcing blocks.

D. Do not provide holder function for labeled doors.

2.14 WALL STOPS AND HOLDERS

A. Acceptable manufacturers and respective catalog numbers:

	Ives	Hager	Burns
1. Wrought Convex Wall Stop	WS406CVX	232W	570
2. Wrought Concave Wall Stop	WS406CCV	236W	575

B. Furnish a stop or holder for all doors. Furnish floor stops or hinge pin stops only where specifically specified.

C. Provide concave style wall stop at all adjacent integral push button locks; provide convex style wall stop at all other locations.

D. Where wall stops are not applicable, furnish overhead stops.

E. Do not provide holder function for labeled doors.

2.15 WEATHERSTRIP, GASKETING

A. Acceptable manufacturers and respective catalog numbers:

	Zero	Pemko	NGP	Reese
1. Weatherstrip	429	2891_PK	700NA	755
2. Adhesive Gasket	188	S88	5050	797
3. Sweep w/ drip	8198	345_N	C627	354
4. Drip Cap	142	346	16	R201

B. Weatherstrip and gasketing shall be independently certified by ANSI for compliance with ANSI A156.22 (2005).

C. Where specified in the hardware groups, furnish the above products unless otherwise detailed in groups.

D. Provide weatherstripping all exterior doors and where specified.

E. Provide intumescent and other required edge sealing systems as required by individual fire door listings to comply with positive pressure standards UL 10C.

F. Provide Zero 188 smoke gaskets at all fire rated doors and smoke and draft control assemblies.

G. Provide gasketing for all meeting edges on pairs of fire doors. Gasketing shall be compatible with astragal design provided by door supplier as required for specific fire door listings.

2.16 THRESHOLDS

A. Acceptable manufacturers and respective catalog numbers:

	Zero	Pemko	NGP	Reese
1. Saddle Thresholds	8655	171	425	S205
2. Half Saddle Thresholds	1674	227	324	S239
3. Interlocking Threshold	74A	114	442-5	T550

B. Thresholds shall be independently certified by ANSI for compliance with ANSI A156.21 (2001).

C. Hardware supplier shall verify all finish floor conditions and coordinate proper threshold as required to ensure a smooth transition between threshold and interior floor finish.

D. Threshold Types:

1. Unless otherwise specified, provide saddle threshold similar to Zero 8655 for all exterior openings with an interior floor finish less than or equal to 1/4" in height.
2. Unless otherwise specified, provide half saddle threshold similar to Zero 1674 for all exterior openings with an interior floor finish greater than 1/4" in height. Threshold height shall match thickness of interior floor finish.

2.17 ELECTRIC STRIKES

A. Acceptable manufacturers and respective catalog numbers:

	Von Duprin	Hes
1. Type 1	6200 Series	1006 Series
2. Type 1	6100 Series	*****
1. Type 1	6300 Series	9500 Series

B. Provide electric strikes compatible with the type of locks shown at each opening where specified.

C. Electric strikes shall be UL listed as Burglary-Resistant Electric Door Strikes and where required shall be UL listed as Electric Strike for Fire Doors.

D. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

2.18 FINISHES AND BASE MATERIALS

A. Unless otherwise indicated in the hardware groups or herein, hardware finishes shall be applied over base metals as specified in the following finish schedule:

HARDWARE ITEM	BHMA FINISH AND BASE MATERIAL
1. Butt Hinges: Exterior, or Non-Ferrous	630 (US32D - Satin Stainless Steel)
2. Butt Hinges: Interior	652 (US26D - Satin Chromium)
3. Continuous Hinges	630 (US32D - Satin Stainless Steel)
4. Flush Bolts	626 (US26D - Satin Chromium)
5. Exit Devices	626 (US26D - Satin Chromium)
6. Locks and Latches	626 (US26D - Satin Chromium)
7. Pulls and Push Plates/Bars	630 (US32D - Satin Stainless Steel)
8. Closers	689 (Powder Coat Aluminum)
9. Protective Plates	630 (US32D - Satin Stainless Steel)
10. Overhead Stops	630 (US32D - Satin Stainless Steel)
11. Wall Stops and Holders	630 (US32D - Satin Stainless Steel)
12. Thresholds	719 (Mill Aluminum)
13. Weather-strip, Sweeps Drip Caps (wood and hollow metal doors)	Aluminum Anodized
14. Weather-strip, Sweeps Drip Caps (aluminum doors)	Match finish of aluminum doors.
15. Miscellaneous	626 (US26D - Satin Chromium)

2.19 KEYING

A. Acceptable manufacturers and respective catalog numbers:

	Schlage	No Substitution
1.	Primus IC (existing)	

At select specified openings the cores shall be purchased as part of the contract from Northern Door & Hardware. Refer to the hardware sets.

	Northern Door & Hardware	No Substitution
1.	Miscellaneous cores	1(218) 722-9531

B. Key system shall utilize patented physical construction to protect against the unauthorized manufacturing and, or distribution of aftermarket key blanks and lock cylinders by anyone other than factory authorized dealers. Patent shall be enforceable until 2029.

C. All locks under this section shall be keyed as directed by the owner to an existing Patented Grand Master Key System.

D. Keying shall be by lock manufacturer where permanent records shall be kept.

E. Key blanks and cylinders shall be certified to have successfully passed 120,000 cycles (3 times ANSI grade 1 requirements) Cylinder cycle testing criteria shall be in accordance with ANSI A156.5, (2014).

F. Key blanks shall be warranted against breakage by the manufacture for life.

G. Furnish a total of 2 keys per cylinder. Actual cut keys to be determined by owner.

H. Construction cores by the contractor.

I. Master keys and control keys to be delivered by registered mail to the owner. Change keys shall be delivered in a set up key cabinet. Construction keys shall be delivered to the contractor.

2.20 POWER SUPPLIES

A. Provide quantities and types as specified in hardware sets. Shared power supplies will not be accepted without prior approval from the owner.

B. All power supplies shall have the following features:
   1. 12/24 VDC Output, field selectable. Class 2 Rated power limited output.
   2. Universal 120-240 VAC input. Low voltage DC regulated and filtered.
   3. Polarized connector for distribution boards. Fused primary input.
   4. AC input and DC output monitoring circuit w/LED indicators. Cover mounted AC Input indication.
   5. Tested and certified to meet UL294. NEMA 1 enclosure.
   6. Hinged cover w/lock down screws. High voltage protective cover.

C. All power supplies shall incorporate fused distribution boards.

D. All electro-mechanical systems requiring fail safe circuits shall be capable of interfacing with the fire alarm system to cut power to appropriate system components. Unless already provided in another system component, all power supplies utilized in fail safe circuits shall include an integral relay which when connected to the N/C fire alarm contact will cut power to all openings connected to the individual power supply. Power supply, unless otherwise specified, will automatically reset itself when fire alarm relay returns to normal state following a fire alarm.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to installation of hardware, installer shall examine door frame installation to ensure frames have been set square and plumb. Installer shall examine doors, door frames, and adjacent wall, floor, and ceiling for conditions, which would adversely affect proper operation and function of door assemblies. Do not proceed with hardware installation until such deficiencies have been corrected.

3.2 INSTALLATION

A. Before hardware installation, general contractor/construction manager shall coordinate a hardware installation seminar with a 1 week notice to all parties involved. The seminar is to be conducted on the installation of hardware, specifically of locksets, closers, exit devices, continuous hinges and overhead stops. Manufacturer's representative of the above products to present seminar. Seminar to be held at the job site and attended by installers of hardware (including low voltage hardware) for aluminum, hollow metal and wood doors. Training to include use of installation manuals, hardware schedule, templates and physical products samples.

B. Shim doors as required to maintain proper operating clearance between door and frame.

C. Install all hardware in accordance with the approved hardware schedule and manufacturer’s instructions for installation and adjustment.

D. Set units level, plumb and true to the line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

E. Provide blocking or reinforcement for all hardware mounted to drywall construction, including wall mounted door stops and holders.

F. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accord with industry standards.

G. Drill appropriate size pilot holes for all hardware attached to wood doors and frames.

H. Unless otherwise specified, locate all hardware in accordance with the recommended locations for builders hardware for standard doors and frames as published by the Door and Hardware Institute.

I. Use only fasteners supplied by or approved by the manufacturer for each respective item of hardware.

J. Mortise and cut to close tolerance and conceal evidence of cutting in the finished work.

K. Conceal push and pull bar fasteners where possible. Do not install through bolts through push plates.

L. Install hardware on UL labeled openings in accordance with manufacturer's requirements to maintain the label.

M. Apply self-adhesive gasketing on frame stop at head & latch side and on rabbet of frame at hinge side.

N. Install hardware in accordance with supplemental "S" label instructions on all fire rated openings.

O. Install wall stops to contact lever handles or pulls. Do not mount wall stops on casework, or equipment.

P. Where necessary, adjust doors and hardware as required to eliminate binding between strike and latchbolt. Doors should not rattle.

Q. Overhead stops used in conjunction with electrified hold open closers shall be templated and installed to coincide with engagement of closer hold open position.

R. Install door closers on corridor side of lobby doors, room side of corridor doors, and stair side of stairways.

S. Adjust spring power of door closers to the minimum force required to ensure exterior and fire rated doors will consistently close and latch doors under existing conditions. Adjust all other door closers to ensure opening force does not to exceed 5 lbs.

T. Adjust "sweep", "latch", & "back check" valves on all door closers to properly control door throughout the opening and closing cycle. Adjust total closing speed as required to comply with all applicable state and local building codes.

U. Install "hardware compatible" (bar stock) type weatherstripping continuously for an uninterrupted seal. Adjust templating for parallel arm door closers, exit devices, etc., as required to accommodate weatherstripping.

V. Unless otherwise specified or detailed, install thresholds with the bevel in vertical alignment with the outside door face. Notch and closely fit thresholds to frame profile. Set thresholds in full bed of sealant.

W. Compress sweep during installation as recommended by sweep manufacturer to facilitate a water-resistant seal.

X. Deliver to the owner 1 complete set of installation and adjustment instructions, and tools as furnished with the hardware.

3.3 FIELD QUALITY CONTROL

A. After installation has been completed, the hardware supplier and manufacturers representative for locksets, door closers, exit devices, and overhead stops shall check the project and verify compliance with installation instructions, adjustment of all hardware items, and proper application according to the approved hardware schedule. Hardware supplier shall submit a list of all hardware that has not been installed correctly.

B. After installation has been completed, the hardware supplier and manufacturers representative shall meet with the owner to explain the functions, uses, adjustment, and maintenance of each item of hardware. Hardware supplier shall provide the owner with a copy of all wiring diagrams. Wiring diagrams shall be opening specific and include both a riser diagram and point to point diagram showing all wiring terminations.

3.4 ADJUSTMENT AND CLEANING

A. At final completion, and when H.V.A.C. equipment is in operation, installer shall make final adjustments to and verify proper operation of all door closers and other items of hardware. Lubricate moving parts with type lubrication recommended by the manufacturer.

B. All hardware shall be left clean and in good operation. Hardware found to be disfigured, defective, or inoperative shall be repaired or replaced.

3.5 HARDWARE SCHEDULE

A. The following schedule of hardware groups are intended to describe opening function. The hardware supplier is cautioned to refer to the preamble of this specification for a complete description of all materials and services to be furnished under this section. Coordinate with existing WRC hardware programming.

HW SET: 01 – DOORS 100, 105b, 106a (no actuator)

1	EA	CONT. HINGE	700 EPT	IVE
1	EA	POWER TRANSFER	EPT10	VON
1	EA	ELEC PANIC HARDWARE	QEL-99-EO	VON
1	EA	IC CYLINDER	AS REQUIRED	SCH
1	EA	DOOR PULL, 1" ROUND	8103 10"	IVE
1	EA	WALL STOP	WS406/407CCV	IVE
1	EA	SURFACE CLOSER	4050A EDA	LCN
1	EA	SURF. AUTO OPERATOR	4642	LCN
1	EA	ACTUATOR	8310-856	LCN
1	EA	CARD READER	BY SECURITY SUPPLIER	BYO
1	EA	REMOTE LOCKING BUTTON	BY SECURITY SUPPLIER	BYO
1	EA	POWER SUPPLY	PS902 4RL	VON
1	EA	ELEVATION DRAWING		
1	EA	RAIN DRIP	142	ZER
1	EA	WEATHERSTRIP	BY DR/FR SUPPLIER	

FUNCTION: (NL) LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD AND OUTSIDE BY KEY IN CYLINDER. DOOR LOCKS WHEN KEY IS REMOVED AND DOOR IS CLOSED.
PRESENTATION OF VALID CREDENTIAL MOMENTARILY RETRACTS LATCH.
FUNCTION: (EO) LATCHBOLT RETRACTED INSIDE BY EXIT DEVICE PUSH PAD.
ACCESS CONTROL SYSTEM CONTROLS OUTSIDE ACTUATOR. INSIDE ACTUATOR ALWAYS ACTIVE TO MOMENTARILY RETRACT LATCH THEN OPEN DOOR.

HW SET 02 – DOORS 108, 109

	EA	HINGE	AS REQUIRED	IVE
1	EA	PRIVACY LOCK W/ OUTSIDE INDICATOR	ND40 OS-OCC	SCH
1	EA	SURFACE CLOSER	4050A	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	IVE
1	EA	WALL STOP	WS406/407CCV	IVE
1	EA	GASKETING	188S	ZER

FUNCTION: PRIVACY LOCK
LATCHBOLT RETRACTED BY LEVER FROM EITHER SIDE UNLESS OUTSIDE IS LOCKED BY INSIDE THUMBTURN. TURNING INSIDE LEVER OR CLOSING DOOR UNLOCKS OUTSIDE LEVER. TO UNLOCK FROM OUTSIDE, REMOVE EMERGENCY BUTTON, INSERT EMERGENCY TURN (FURNISHED) IN ACCESS HOLE AND ROTATE.
OUTSIDE INDICATOR DISPLAYS OCCUPIED/VACANT

HW SET: 03 – DOORS 102, 103, 104

	EA	HINGE	AS REQUIRED	IVE
1	EA	ENTRY / OFFICE LOCK	MA521	FAL
1	EA	ELECTRIC STRIKE	6211 FSE	VON
1	EA	SURFACE CLOSER	4050A REG OR EDA AS REQ	LCN
1	EA	WALL STOP	WS406/407CCV	IVE
1	EA	COAT AND HAT HOOK	582	IVE
1	EA	CARD READER	BY SECURITY SUPPLIER	BYO
1	EA	POWER SUPPLY	PS902 2RS	VON
1	EA	ELEVATION DRAWING		
1	EA	WIRE DIAGRAM	POINT TO POINT	

FUNCTION: OFFICE AND INNER ENTRY LOCK
LATCHBOLT RETRACTED BY LEVER FROM EITHER SIDE UNLESS OUTSIDE IS MADE INOPERATIVE BY KEY OUTSIDE OR BUTTONS IN FACE. WHEN OUTSIDE IS LOCKED, LATCHBOLT IS RETRACTED BY KEY OUTSIDE OR BY LEVER INSIDE. AUXILIARY LATCH DEADLOCKS LATCHBOLT WHEN DOOR IS CLOSED. PRESENTATION OF VALID CREDENTIAL MOMENTARILY ENERGIZES ELECTRIC STRIKE.

HW SET 04 – DOORS 107

	EA	HINGES	(AS SPECIFIED)	IVE
1	EA	STOREROOM LOCK	ND80	SCH
1	EA	SURFACE CLOSER	4050A H	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	IVE
1	EA	WALL STOP	WS406/407CVX	IVE

FUNCTION: ND80 (F86) STOREROOM LOCK
OUTSIDE LEVER FIXED. ENTRANCE BY KEY ONLY. INSIDE LEVER ALWAYS UNLOCKED.

HW SET: 05 – DOORS 105a, 106b

	EA	HINGE	AS REQUIRED	IVE
1	EA	STOREROOM LOCK	MA581	FAL
1	EA	ELECTRIC STRIKE	6211 FSE	VON
1	EA	SURFACE CLOSER	4050A REG OR EDA AS REQ	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	IVE
1	EA	WALL STOP	WS406/407CVX	IVE
1	EA	GASKETING	188S	ZER
1	EA	MORTISE DOOR BOTTOM	360	ZER
1	EA	CARD READER	BY SECURITY SUPPLIER	BYO
1	EA	POWER SUPPLY	PS902 2RS	VON
1	EA	ELEVATION DRAWING		
1	EA	WIRE DIAGRAM	POINT TO POINT	

FUNCTION: STOREROOM LOCK
LATCHBOLT RETRACTED BY KEY OUTSIDE OR BY LEVER INSIDE. OUTSIDE LEVER ALWAYS INOPERATIVE. AUXILIARY LATCH DEADLOCKS LATCHBOLT WHEN DOOR IS CLOSED.PRESENTATION OF VALID CREDENTIAL MOMENTARILY ENERGIZES ELECTRIC STRIKE.

END OF SECTION

SECTION 08 80 00

GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Glass.

B. Glazing compounds and accessories.

1.02 RELATED REQUIREMENTS

A. Section 08 11 13 - Hollow Metal Frames.

B. Section 08 14 16 - Flush Wood Doors: Glazed lites in doors.

1.03 REFERENCE STANDARDS

A. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2019).

B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.

C. ASTM C1036 - Standard Specification for Flat Glass; 2021.

D. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2018.

E. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2019.

F. GANA (GM) - GANA Glazing Manual; Glass Association of North America; 2022.

G. GANA (SM) - GANA Sealant Manual; Glass Association of North America; 2008.

H. ICC (IBC) - International Building Code; Current edition.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.05 PERFORMANCE REQUIREMENTS

A. Provide glass and glazing materials for continuity of building enclosure vapor retarder and air barrier:

1. In conjunction with vapor retarder and joint sealer materials described in other sections.
2. To maintain a continuous air barrier and vapor retarder throughout the glazed assembly from glass pane to heel bead of glazing sealant.

1.06 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data on Glass Types: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.

C. Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.

1.07 QUALITY ASSURANCE

A. Perform Work in accordance with GANA Glazing Manual and FGMA Sealant Manual for glazing installation methods.

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

1.08 PRE-INSTALLATION MEETING

A. Convene one week before starting work of this section.

1.09 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 GLASS MATERIALS

A. Float Glass Manufacturers:
   1. AGC Flat Glass North America, Inc: www.na.agc-flatglass.com.
   2. Guardian Industries Corporation: www.guardian.com.
   3. Pilkington North America Inc: www.pilkington.com/na.
   4. PPG Industries, Inc: www.ppgideascapes.com.
   5. Visteon Glass Systems: www.visteon.com/floatglass.
   6. Viracon.
   7. Manko Window Systems
   8. Substitutions: Refer to Section 01 60 00 - Product Requirements.

B. Float Glass: Provide float glass based glazing unless noted otherwise.
   1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality-Q3.
   2. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and Kind FT.
   3. Thicknesses: As indicated

C. Fire Resistance-Rated Glazing: Type, thickness, and configuration as required to achieve indicated ratings.
   1. IBC Fire Resistance Rating: W-45, minimum.
   2. Provide products listed by Underwriters Laboratories or Intertek Warnock Hersey.
   3. Safety Certification: 16 CFR 1201 Category II.

D. Fire-Protection-Rated Glazing: Type, thickness, and configuration as required to achieve indicated ratings.
   1. IBC Fire Protection Rating: As indicated on drawings.
   2. Provide products listed by Underwriters Laboratories or Intertek Warnock Hersey.
   3. Labeling: Provide permanent label on each piece giving the IBC rating and other information required by the applicable code.

C. Clear Float Glass: Clear, annealed.
   1. Comply with ASTM C 1036, Type I, transparent flat, Class 1 clear, Quality Q3 (glazing select).
   2. Comply with ASTM C 1048, Condition A uncoated, Type I, transparent flat, Class 1, Quality q3 glazing select.
   3. 1/4 inch thick.

D. Safety Glass: Clear; fully tempered with horizontal tempering.
   1. Comply with ASTM C 1048, Condition A uncoated, Type I, transparent flat, Class 1, Quality q3 glazing select.
   2. Comply with ANSI Z97.1.
   3. Sizes:
      a. 1/4 inch thick, interior glazing.

2.02 SEALED INSULATING GLASS UNITS

A. Manufacturers:
   1. Any of the manufacturers specified for float glass.
   2. Substitutions: Refer to Section 01 60 00 - Product Requirements.

B. Sealed Insulating Glass Units: Types as indicated.
   1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
   2. Edge Spacers: Aluminum, bent and soldered corners.
   3. Edge Seal: Glass to elastomer with supplementary silicone sealant.
   4. Purge interpane space with dry hermetic air.

C. Insulated Glass Units: Double pane with glass to elastomer edge seal.
   1. Outer pane of 1/4 inch glass, inner pane of 1/4 inch glass
   2. Place reflective coating on No. 3 surface within the unit.
   3. Comply with ASTM E 774 and E 773, Class CBA.
   4. Purge interpane space with dry hermetic air.
   5. Total unit thickness of 1 inch.

D. Tempered Insulated Glass Units: Double pane with glass to elastomer edge seal.
   1. Outer pane of 1/4 inch tempered glass, inner pane of 1/4 inch tempered glass.
   2. Place reflective low E coating on No. 3 surface within the unit.
   3. Comply with ASTM E 774 and E 773, Class CBA.
   4. Purge interpane space with dry hermetic air.
   5. Total unit thickness of 1 inch.

E. Insulated Spandrel Glass Units (Type SG): Double Pane with glass to elastomer edge seal.
   1. Outer pane of 1/4 inch heat strengthened glass, inner pane of 1/4 inch ceramic frit fused to the outer surface, color as selected by Architect.
   2. Comply with ASTM C 1048, Condition B spandrel glass one surface coated Type II pattern flat, Class 2 tinted heat absorbing and light reducing, Quality q7 decorative.
   3. Comply with ASTM C 1036 Type I, transparent flat, Class 2 tinted heat absorbing and light reducing.
   4. Total unit thickness of 1 inch.

2.03 GLAZING COMPOUNDS

A. Manufacturers:
   1. Dow Corning Corp: www.dowcorning.com.
   2. GE Plastics: www.geplastics.com.
   3. Pecora Corporation: www.pecora.com.
   4. Substitutions: Refer to Section 01 60 00 - Product Requirements.

B. Butyl Sealant: Single component; ASTM C920, Grade NS, Class 12-1/2, Uses M and A, Shore A hardness of 10 to 20; black color.

C. Silicone Sealant: Single component; neutral curing; capable of water immersion without loss of properties; non-bleeding, non-staining; ASTM C920, Type S, Grade NS, Class 25, Uses M, A, and G; with cured Shore A hardness range of 15 to 25; color.

2.04 GLAZING ACCESSORIES

A. Manufacturers:
   1. Norton Performance Plastics Corp.
   2. Pecora Corporation: www.pecora.com.
   3. Tremco, Inc: www.tremcosealants.com.
   4. Substitutions: Refer to Section 01 60 00 - Product Requirements.

B. Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness; ASTM C864 Option II. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.

C. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness; ASTM C864 Option II. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self-adhesive on one face.

D. Glazing Tape: Preformed butyl compound with integral resilient tube spacing device; 10 to 15 Shore A durometer hardness; coiled on release paper; black color.

E. Glazing Gaskets: Resilient silicone extruded shape to suit glazing channel retaining slot; ASTM C864 Option I.

F. Glazing Clips: Manufacturer's standard type.

G. Transaction window: QuikServ: TBD
   2. Level 1 ballistic
   3. 1” insulated glass.
   4. Electric drawer.
   5. Intercom system.
   6. Motion sensor with ring noise to indicate entrance.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that openings for glazing are correctly sized and within tolerance.

B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and ready to receive glazing.

3.02 PREPARATION

A. Clean contact surfaces with solvent and wipe dry.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant.

D. Install sealants in accordance with manufacturer's instructions.

3.03 INSTALLATION - EXTERIOR WET/DRY METHOD (PREFORMED TAPE AND SEALANT)

A. Cut glazing tape to length and set against permanent stops, 3/16 inch below sight line. Seal corners by butting tape and dabbing with butyl sealant.

B. Apply heel bead of butyl sealant along intersection of permanent stop with frame ensuring full perimeter seal between glass and frame to complete the continuity of the air and vapor seal.

C. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

D. Rest glazing on setting blocks and push against tape and heel bead of sealant with sufficient pressure to attain full contact at perimeter of pane or glass unit.

E. Install removable stops, with spacer strips inserted between glazing and applied stops 1/4 inch below sight lines.
   1. Place glazing tape on glazing pane of unit with tape flush with sight line.

F. Install removable stops, with spacer strips inserted between glazing and applied stops, 1/4 inch below sight line. Place glazing tape on glazing pane or unit with tape flush with sight line.

G. Fill gap between glazing and stop with silicone type sealant to depth equal to bite of frame on glazing, but not more than 3/8 inch below sight line.

H. Apply cap bead of silicone type sealant along void between the stop and the glazing, to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

3.04 INSTALLATION - INTERIOR WET/DRY METHOD (TAPE AND SEALANT)

A. Cut glazing tape to length and install against permanent stops, projecting 1/16 inch above sight line.

B. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

C. Rest glazing on setting blocks and push against tape to ensure full contact at perimeter of pane or unit.

D. Install removable stops, spacer shims inserted between glazing and applied stops at 24 inch intervals, 1/4 inch below sight line.

E. Fill gaps between pane and applied stop with silicone type sealant to depth equal to bite on glazing, to uniform and level line.

F. Trim protruding tape edge.

3.05 CLEANING

A. Remove glazing materials from finish surfaces.

B. Remove labels after Work is complete.

C. Clean glass and adjacent surfaces.

END OF SECTION

SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Metal stud wall framing.

C. Metal channel ceiling framing.

D. Acoustic insulation.

E. Cementitious backing board.

F. Gypsum wallboard.

G. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 – Rough Carpentry: Related.

B. Section 07 84 00 - Firestopping: Top-of-wall assemblies at fire rated walls.

C. Section 07 90 05 - Joint Sealers: Acoustic sealant.

1.03 REFERENCE STANDARDS

A. AISI S100-12 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2016 with Supplement (2020)..

B. AISI SG02-1 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2001 with 2004 supplement. (replaced SG-971)

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.

D. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017 (Reapproved 2022).

E. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.

F. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.

G. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2020.

H. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2023.

I. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2022.

J. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2022.

K. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2019.

L. ASTM C1278/C1278M - Standard Specification for Fiber-Reinforced Gypsum Panel; 2017.

M. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2017.

N. ASTM C1629/C1629M - Standard Classification for Abuse-Resistant Non-decorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels; 2023.

O. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.

P. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.

Q. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.

R. ASTM E413 - Classification for Rating Sound Insulation; 2022.

S. GA-216 - Application and Finishing of Gypsum Board; 2024.

T. GA-600 - Fire Resistance Design Manual; 2024.

U. ICC (IBC) - International Building Code; current edition.

V. UL (FRD) - Fire Resistance Directory; current edition.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

1.05 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 3 years of documented experience.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Interior Partitions, Indicated as Acoustic: Provide completed assemblies with the following characteristics:
   1. Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

C. Fire Rated Assemblies: Provide completed assemblies with the following characteristics:
   1. Fire Rated Partitions: UL listed assembly No. U419; 1 hour rating.
   2. Fire Rated Shaft Walls: UL listed assembly No. U419; 1 hour rating or as shown on drawings/required.
   3. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.02 METAL FRAMING MATERIALS

A. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
   1. Studs: "C" shaped with flat or formed webs with knurled faces.
   2. Runners: U shaped, sized to match studs.
   3. Ceiling Channels: C-shaped.
   4. Furring: Hat-shaped sections, minimum depth of 7/8 inch.
   5. Furring: "Z" shaped sections, minimum depth of 2 inches.
      a. Contractors Option: Alternate "Z" Shaped Section: EcoStud, 100% recycled plastic studs as manufactured by Superior Polymer, phone 906-337-3355.

B. Metal Framing: Drywall and Plaster Ceilings:
   1. Chicago Metallic Corporation - System 640 and fire Front 650.
   2. USG - Drywall Suspension System Flat for Ceilings, rated and non-rated one hour.
   3. Armstrong - Quickstix Drywall Ceiling Framing.

C. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.

D. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
   1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100-12.
   2. Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot dipped galvanized coating.
   3. Provide components UL-listed for use in UL-listed fire-rated head of partition joint systems indicated on drawings.
   4. Deflection and Firestop Track:
      a. Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-rating of the wall assembly.
      b. Products:
         1) FireTrak Corporation; Posi Klip.
         2) Metal-Lite, Inc.; The System.
   5. Provide top track preassembled with connection devices spaced to fit stud spacing indicated on drawings; minimum track length of 12 feet.

2.03 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:
   1. CertainTeed Corporation: www.certainteed.com.
   2. Lafarge North America Inc.: www.lafargenorthamerica.com.
   3. National Gypsum Company: www.nationalgypsum.com.
   4. USG Corporation: www.usg.com.
   5. Substitutions: See Section 01 60 00 - Product Requirements.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
   3. Thickness:
      a. Vertical Surfaces: 5/8 inch.
      b. Ceilings: 5/8 inch.
   4. Paper-Faced Products:
      a. CertainTeed Corporation; ProRoc Brand Gypsum Board.
      b. Lafarge North America Inc.; Regular Drywall and Firecheck Type X and Type C.
      c. National Gypsum Company; Gold Bond Brand Gypsum Wallboard.
      d. USG Corporation; Sheetrock Brand Gypsum Panels.
      e. Substitutions: See Section 01 60 00 - Product Requirements.

C. Backing Board For Wet Areas: One of the following products:
   1. Application: Surfaces behind tile in wet areas including tub and shower surrounds and shower ceilings.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. Glass Mat Faced Board: Coated glass mat water-resistant gypsum backing panel as defined in ASTM C1178/C1178M.
      a. Standard Type: Thickness 5/8 inch.
      b. Fire-Resistant Type: Type X core, thickness 5/8 inch.
      c. Products:
         1) Georgia-Pacific Gypsum; DensShield Tile Backer.
         2) Substitutions: See Section 01 60 00 - Product Requirements.

D. Backing Board For Non-Wet Areas: Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimum joints in place; ends square cut.
   1. Application: Vertical surfaces behind thinset tile, except in wet areas.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.

3. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
4. Type: Regular and Type X, in locations indicated.
5. Type X Thickness: 5/8 inch.
6. Regular Board Thickness: 5/8 inch.
7. Edges: Tapered.
8. Products:
    a. CertainTeed Corporation; ProRoc Brand Moisture Resistant Gypsum Board ("Greenboard").
    b. Georgia-Pacific Gypsum; DensShield Tile Backer.
    c. Lafarge North America Inc.; Watercheck ("Greenboard").
    d. National Gypsum Company; Gold Bond Brand XP Gypsum Board.
    e. USG Corporation; Sheetrock Brand Mold Tough Gypsum Panels.
    f. Substitutions: See Section 01 60 00 - Product Requirements.

C. Security Board/Mesh:
1. Gyp. Bd. Assemblies, Bullet Resistant Panels:
    a. Manufacturer: Armocore
    b. Model: UL752 Level 3
    c. Thickness: 7/16"
    d. Protection Level:
        1. Ballistic: UL752 Level 3
        2. Forced Entry: Class IV per ASTM F1233-98
    e. Installation: Install per manufacturer's instructions. All joints need to be reinforced by a 4" batten strip.
2. Security Barrier Mesh:
    a. Manufacturer: CLARK DIETRICH
    b. Model: BM15
    c. GAUGE: 9
    d. Material: Type II, Class 1 – Carbon Steel - Mesh, Complying to ASTM F1267 and A1011
    e. Installation: Install per manufacturer's instructions with Barrier Mesh clips, install Barrier Mesh clips 6" on center.

2.04 ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness: as required in inches.

B. Acoustic Insulation: 1; preformed glass fiber, friction fit type, unfaced.
1. Owens Corning - Noise Barrier Batts
2. Manville - Sound Control Batts
3. Certainteed - Sound Control Batts
4. Guardian Fiberglass, Inc. - Sound Control Batts

C. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.

D. Acoustic Sealant: Non-hardening, non-skinning, for use in conjunction with gypsum board. Acoustical sealant shall be as manufactured by one of the following or approved equal:
1. Ohio Sealants Inc. - Sound Sealant Rubber Base
2. Pecora - Acoustical Sealant
3. Tremco -Acoustical Sealant

E. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
1. Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
2. Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.

3. Ready-mixed vinyl-based joint compound.
4. Powder-type vinyl-based joint compound.
5. Chemical hardening type compound for use in mold resistant systems.

F. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

G. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion resistant.

H. Resilient Furring Channels: 1/2 inch deep Galvanized steel, Dietrich RC Deluxe.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.

B. Studs: Space studs at 16 inches on center.
1. Extend partition framing to structure where indicated and to ceiling in other locations.
2. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.

C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

D. Standard Wall Furring: Install at concrete and masonry walls scheduled to receive gypsum board, not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches on center.
1. Orientation: Vertical.
2. Spacing: As indicated.

E. Acoustic Furring: Install resilient channels at maximum 24 inches on center. Locate joints over framing members.

F. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
1. Level ceiling system to a tolerance of 1/360.
2. Main runners shall be installed 48" on center, and be directly suspended by not less than 12 gage galvanized steel wire spaced 48" on center along the furring runners. Hanger wires shall be wrapped tightly with at least 3 full turns.
3. Furring main runners shall be interconnected by furring cross tees 48" long spaced 16" on center and also 8" from the ends of each gypsum drywall panel. Cross tees shall also be installed adjacent to all recessed light fixtures on each side not supported by a furring runner. Pay special attention to the type of lay-in light fixture and direction in which they are installed.
4. Wall track shall be installed wherever suspension components meet vertical surfaces, and the suspension component ends shall be butt cut to fit into the wall track.
5. Studs: Space studs at 16 inches (400 mm) on center.
   a. Extend stud framing through ceiling to structure above. Maintain clearance under structural building members to avoid deflection transfer to studs. Provide extended leg ceiling runners.
   b. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
6. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

G. "Z" Wall Furring: Install at masonry walls scheduled to receive gypsum wallboard. Furring shall be installed vertically with the 3/4 inch flange to the masonry and anchored to the masonry with appropriate fasteners 24" on center maximum. Install furring 16" on center. Install insulation progressively as furring installation proceeds.

H. Blocking: Install blocking for support of plumbing fixtures, wall cabinets, toilet accessories, and hardware. Bolt or screw steel channels to studs.

3.03 ACOUSTIC ACCESSORIES INSTALLATION

A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.

B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
   1. Place one bead continuously on substrate before installation of perimeter framing members.
   2. Place continuous bead at perimeter of each layer of gypsum board.
   3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.
   4. Bottom of Partitions: Apply a round bead of sealant at each side stud track before setting gypsum board. Set gypsum board into sealant to form complete contact with adjacent materials.
   5. Top and Sides of Partitions Abutting Existing Construction or Non-acoustical New Construction - After gypsum board is installed apply acoustical sealant to provide full contact with adjacent existing surfaces at each side of the partition.
   6. Cut Outs - Backs of electrical boxes, pipes, ducts, and other equipment penetrating the wall surface shall be buttered with sealant and perimeter edges of all items sealed with sealant.

3.04 BOARD INSTALLATION

A. Comply with ASTM C 840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
   1. Exception: Tapered edges to receive joint treatment at right angles to framing.

C. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

D. Cementitious Backing Board: Install over steel framing members and plywood substrate where indicated, in accordance with ANSI A108.11-SystemDeleted and manufacturer's instructions.

E. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of non-rated double-layer assemblies, which may be installed by means of adhesive lamination.

3.05 INSTALLATION OF TRIM AND ACCESSORIES

A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
   2. Partition, furring or column fireproofing abuts a structural element (except floor) or dissimilar wall or ceiling.
   3. Ceiling or soffit abuts a structural element, dissimilar wall or partition or other vertical penetration.
   4. Construction changes within the plane of partition or ceiling.
   5. Ceiling dimensions exceed fifty feet in either direction with perimeter relief, thirty feet without relief.
   6. Where wings of "L", "U" and "T" shaped ceiling areas are joined.
   7. Where gypsum board systems abut dissimilar materials, gypsum board shall be isolated by installing a casing bead within a 1/4" of the dissimilar material and sealing the joint with either acoustical sealant as specified above for sound insulated partitions or caulking as specified under Section 07 90 05.

8. Ceiling height door frames may be used as control joints. Less than ceiling height frames shall have control joints extending to the ceiling from both corners. Window openings shall be treated similar to doors with joint extending to the floor as well as the ceiling. Control joints in gypsum board to gypsum board configurations shall be formed using expansion joint formers as specified above. Joints shall be caulked with sound sealant or caulking as specified in Section 07 90 05 as appropriate to the condition.
9. Control joints in fire rated construction shall be formed with double studs and expansion joint former and backed with safing insulation as specified under Section 07 84 00.

B. Corner Beads: Install at external corners, using longest practical lengths.

3.06 JOINT TREATMENT

A. Glass Mat Faced Gypsum Board and Exterior Glass Mat Faced Sheathing: Use fiberglass joint tape, bedded and finished with chemical hardening type joint compound.

B. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.

C. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
1. Level 4: All walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   a. *Regardless of schedule all walls to receive level 4 finish, unless otherwise indicated.
2. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.

D. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
1. Feather coats of joint compound so that camber is maximum 1/32 inch.

3.07 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09 30 00

TILING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Tile for floor applications.

B. non-ceramic trim accessories.

1.02 RELATED REQUIREMENTS

A. Section 07 90 05 - Joint Sealers.

1.03 REFERENCE STANDARDS

A. ANSI A108 Series/A118 Series/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2012.1.
   1. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2012.1.
   2. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex Portland Cement Mortar; 2012.1.
   3. ANSI A108.1c - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Bed with Dry-Set or Latex Portland Cement
   4. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 2012.1.
   5. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 2012.1.
   6. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; 2012.1.
   7. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 2012.1.
   8. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 2012.1.
   9. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 2012.1.
   10. ANSI A108.11 - American National Standard for Interior Installation of Cementitious Backer Units; 2012.1.
   11. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior glue plywood) Latex-Portland Cement Mortar; 2012.1.
   12. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2012.1.

B. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2012.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

C. Product Data: Provide instructions for using grouts and adhesives.

D. Samples: Submit samples for color selection by the Architect. Colors shall be selected from the manufacturer's standard line of colors.

E. Verification from the flooring installer, in writing, on his letterhead, indicating that he has reviewed the concrete moisture content testing reports, or has conducted his own moisture content tests and accepts the moisture levels present within the concrete slab as acceptable for the installation of the products being furnished.

F. Maintenance Data: Include recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.06 FIELD CONDITIONS

A. Maintain ambient and substrate temperature of 50 degrees F (10 degrees C) during installation of mortar materials.

1.07 EXTRA MATERIALS

A. Provide (1) full carton of each specified tile. Store where directed.

PART 2 PRODUCTS

2.01 TILE

A. SCHEDULE:
   1. **See Interior Finish Material Schedule, Architectural Drawing sheets.**
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 TRIM AND ACCESSORIES

A. Non-Ceramic Trim: style and dimensions to suit application, for setting using tile mortar or adhesive.
   1. General Applications:
      a. Open edges of wall tile.
      b. Open edges of floor tile.
      c. Wall corners, outside
      d. Transition between floor finishes of different heights.
      e. Thresholds at door openings.
      f. Expansion and control joints, floor and wall.
      g. Floor to wall joints.

B. SCHEDULE:
   1. **See Interior Finish Material Schedule, Architectural Drawing sheets.**
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 MORTAR MATERIALS

A. For wall applications, provide medium mortar bed, non-sagging type.

B. Manufacturers:
   1. Bonsal American, Inc.
   2. Bostik, Inc.
   3. Custom Building Products
   4. Mapei
   5. Laticrete
   6. Substitutions: See Section 01 60 00 - Product Requirements.

2.04 GROUTS

A. Manufacturers:
   1. Bonsal American, Inc.; Product Polymer Modified Sanded Tile Grout & Epox-E-Set: www.sakrete.com
   2. Bostik Inc.; Product Ceramic Tile Grout (Sanded) & Color-Poxy: www.bostik-us.com.
   3. Custom Building Products; Product Polyblend Sanded Tile Grout & 100% Solids Epoxy Grout: www.custombuildingproducts.com.
   4. Mapei; Product KER 200 Series (Sanded) & Kerapoxy.
   5. Laticrete; Product: Laticrete Sanded Grout 500 Series & Latapoxy SP-100.
   6. Substitutions: See Section 01 60 00 - Product Requirements.

B. Standard Grout: Standard sanded cement grout, as specified in ANSI A118.6.

C. SCHEDULE:
   1. **See Interior Finish Material Schedule, Architectural Drawing sheets.**

2.05 THIN-SET ACCESSORY MATERIALS

A. Cleavage Membrane: Polymer modified elastomer laminated to a "stress flex" fiber sheet to form a single 40 mil high strength self-bonding membrane. Cleavage Membrane shall be as manufactured by one of the following or approved equal:
   1. National Applied Construction Products, Inc.: ECB Membrane; Phone (216) 928-3414.

B. Anti-Fracture Membrane: 40 mil thick reinforced peel-n-stick sheet membrane with a rubberized adhesive that aggressively sticks to the substrate and will not dry out. Fabric reinforcement is laminated to the top of the membrane.
   1. Protecto Wrap Company: AFM Anti Fracture Membrane; Phone 800-759-9727.
   2. Protecto Wrap Company: AFM-WM Waterproofing Membrane, same construction as above with a 2 inch wide overlap adhesion strip; Phone 800-759-9727.
   3. Laticrete International, Inc.: Laticrete Crack Isolation Mat (55 mil); Phone 800-243-4788.

C. Waterproofing Crack Isolation Membrane for Thinset Applications: 30 mil plasticized PVC shower pan liner sandwiched between two layers of 2.5 mil thick non-woven spunbonded polyester fibers, for bonding to wood, metal or concrete subfloors.
   1. Pasco Specialty Manufacturing, Inc.: BaseLine. Phone 800-421-2053.
   2. Dal Tile: Dal-Seal TS, DAl-Seal CIS or Noble Deck 40 mil, Dal-Sound 50 mil (Sound Isolation); Phone 800-933-8453.

D. Furnish all primers, seam and corner tapes, sealants and leveling compounds as required for a complete installation of Waterproof Membrane systems.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.

B. Verify that concrete sub-floor surfaces are ready for tile installation by reviewing testing for moisture emission rate and alkalinity; obtain instructions if test results are not within the following limits:
   1. Moisture emission rate: Not greater than 3 lb per 1000 sq ft (7.1 kg per 100 sq m) per 24 hours when tested using calcium chloride moisture test kit for 72 hours as per ASTM F 1869-03, or slab humidity levels as measured by in situ Probes of 75% relative humidity or less as measured per ASTM F2170.
   2. Alkalinity: pH range of 5-9.
   3. Installer shall verify in writing that he has reviewed the test results and is satisfied that the installation can proceed.

3.02 PREPARATION

A. Protect surrounding work from damage.

B. Vacuum clean surfaces and damp clean.

C. Seal substrate surface cracks with filler.

D. Level existing substrate surfaces to acceptable flatness tolerances.

3.03 INSTALLATION - GENERAL

A. Install tile and grout in accordance with applicable requirements of ANSI A108.1 through A108.13, manufacturer's instructions, and The Tile Council of North America Handbook recommendations.

B. Request tile pattern. Do not interrupt tile pattern through openings.

C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.

D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.

E. Form internal angles square and external angles bullnosed.

F. Install ceramic accessories rigidly in prepared openings.

G. Sound tile after setting. Replace hollow sounding units.

H. Prior to grouting, allow installation to completely cure; minimum of 48 hours.

I. Grout tile joints. Use standard grout unless otherwise indicated.

J. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

3.04 CLEANING

A. Clean tile and grout surfaces.

END OF SECTION

SECTION 09 51 00
SUSPENDED ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Acoustical units.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. ASTM C635/C635M - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2013a.

B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels; 2013.

C. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2014.

D. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2014.

E. UL (FRD) - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.

B. Do not install acoustical units until after interior wet work is dry.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate grid layout and related dimensioning.

C. Product Data: Provide data on suspension system components and acoustical units.

1.06 QUALITY ASSURANCE

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

B. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.07 FIELD CONDITIONS

A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

1.08 EXTRA MATERIALS

A. Supply (2) full cartons of each type specified. Store where directed.

PART 2 PRODUCTS

2.01 ACOUSTICAL UNITS

A. Acoustical Units - General: ASTM E1264, Class A.

B. SCHEDULE:
   1. **See Interior Finish Material Schedule, Architectural drawing sheets.**
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 SUSPENSION SYSTEM(S)

A. Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.

B. SCHEDULE:
   1. **See Interior Finish Material Schedule, Architectural drawing sheets.**
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

B. Perimeter Moldings: Same material and finish as grid.
   1. At Exposed Grid: Provide L-shaped molding for mounting at same elevation as face of grid.

C. Furnish and install ceiling hold down clips for all lay-in ceilings that are installed in Vestibules or within twenty feet of an exterior door

D. Ceiling holddown clips.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.

B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

C. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.

D. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

E. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

F. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

G. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.

H. Do not eccentrically load system or induce rotation of runners.

I. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
   1. Use longest practical lengths.
   2. Overlap and rivet corners.

3.03 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install units after above-ceiling work is complete.

E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

F. Cutting Acoustical Units:
   1. Make field cut edges of same profile as factory edges.

G. Install hold-down clips on panels within 20 ft of an exterior door.

3.04 TOLERANCES

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

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

END OF SECTION

SECTION 09 65 00
RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Resilient flooring

B. Resilient base.

C. Installation accessories.

1.02 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors.

1.03 REFERENCE STANDARDS

A. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2014c.

B. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.

C. ASTM F1861 - Standard Specification for Resilient Wall Base; 2008 (Reapproved 2012)e1.

D. ASTM F1913 - Standard Specification for Vinyl Sheet Floor Covering Without Backing; 2004 (Reapproved 2014).

E. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; National Fire Protection Association; 2015.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, installation adhesives and accessories, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Shop Drawings: Indicate seaming plan.

D. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.

E. Verification from the flooring installer, in writing, on his letterhead, indicating that he has reviewed the concrete moisture content testing reports, or has conducted his own moisture content tests and accepts the moisture levels present within the concrete slab as acceptable for the installation of the products being furnished.

F. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect roll materials from damage by storing on end.

1.06 FIELD CONDITIONS

A. Maintain temperature in storage area between 55 degrees F and 90 degrees F.

B. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

1.07 EXTRA MATERIALS

A. Supply 200 SF of each specified flooring material; store where directed.

B. Supply 20 LF of rubber base; store where directed.

PART 2 PRODUCTS

2.01 RESILIENT SHEET FLOORING

A. SCHEDULE:
   1. **See Interior Finish Material Schedule, Architectural drawing sheets.**
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 RESILIENT BASE

A. SCHEDULE:
   1. **See Interior Finish Material Schedule, Architectural drawing sheets.**
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 ACCESSORIES

A. Subfloor Filler: Cement based; type recommended by adhesive material manufacturer. No gypsum based fillers are allowed.

B. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.

C. Moldings, Transition and Edge Strips:
   1. SCHEDULE: **See Interior Finish Material Schedule, Architectural drawing sheets.**

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

B. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive resilient flooring.

C. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

D. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for resilient flooring installation by testing for moisture and pH.
   1. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

E. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to sub-floor surfaces.

F. Verify that concrete sub-floor surfaces are ready for resilient flooring installation by reviewing testing report for moisture emission rate and alkalinity; obtain instructions if test results are not within the following limits:
   1. Moisture emission rate: Not greater than 3 lb per 1000 sq ft per 24 hours when tested using calcium chloride moisture test kit for 72 hours, as per ASTM F 1869-03.
   2. Alkalinity: pH range of 5-9.
   3. Installer shall verify in writing that he has reviewed the test results and is satisfied that the installation can proceed.

G. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.
   1. Sub-floor filler used on concrete slab on grade construction shall be cement based.
   2. No Gypsum based sub-floor fillers are allowed.

B. Prohibit traffic until filler is fully cured.

C. Clean substrate.

3.03 INSTALLATION

A. Starting installation constitutes acceptance of sub-floor conditions.

B. Install in accordance with manufacturer's written instructions.

C. Spread only enough adhesive to permit installation of materials before initial set.

D. Fit joints and butt seams tightly.

E. Set flooring in place, press with heavy roller to attain full adhesion.

F. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.

G. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.

H. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.

B. Install base on solid backing. Bond tightly to wall and floor surfaces.

C. Scribe and fit to door frames and other interruptions.

3.05 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

C. Clean, seal, and wax resilient flooring products in accordance with manufacturer's instructions.

3.06 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 09 68 13
TILE CARPETING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Carpet tile, fully adhered.

1.02 REFERENCE STANDARDS

A. CRI (GLP) - Green Label Plus Testing Program - Certified Products Current Edition.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

C. Shop Drawings: Indicate layout of joints.

D. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.

PART 2 PRODUCTS

2.01 MATERIALS

A. Tile Carpeting, Type: Tufted, manufactured in one color dye lot.

B. Subfloor Filler: White premix latex; type recommended by flooring material manufacturer.

C. Edge Strips: Embossed aluminum, standard color.

D. Carpet Tile Adhesive: Recommended by carpet tile manufacturer; releasable type.

E. Schedule:
   1. **See Interior Finish Material Schedule, Architectural drawing sheets.**
   2. Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.

B. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to subfloor surfaces.

3.02 PREPARATION

A. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Prohibit traffic until filler is cured.

B. Vacuum clean substrate.

3.03 INSTALLATION

A. Starting installation constitutes acceptance of subfloor conditions.

B. Install carpet tile in accordance with manufacturer's instructions.

C. Blend carpet from different cartons to ensure minimal variation in color match.

D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.

E. Lay carpet tile in pattern indicated.

F. Fully adhere carpet tile to substrate.

G. Trim carpet tile neatly at walls and around interruptions.

H. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING

A. Remove excess adhesive without damage, from floor, base, and wall surfaces.

B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09 72 00
WALL COVERINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wall covering.

1.02 RELATED REQUIREMENTS

A. Section 09 21 16 - Gypsum Board Assemblies: Wall substrate and Trims

B. Section 09 90 00 - Painting and Coating: Preparation and priming of substrate surfaces.

1.03 REFERENCE STANDARDS

A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. ASTM F793 - Standard Classification of Wallcovering by Use Characteristics.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on wall covering and adhesive.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inspect roll materials at arrival on site, to verify acceptability.

B. Protect packaged adhesive from temperature cycling and cold temperatures.

C. Do not store roll goods on end.

1.06 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the adhesive or wall covering product manufacturer.

B. Maintain these conditions 24 hours before, during, and after installation of adhesive and wall covering.

C. Provide lighting level of 80 ft candles (860 lx) measured mid-height at substrate surfaces.

1.07 EXTRA MATERIALS

A. Supply 25 linear feet (8 linear m) of each color and pattern of wall covering; store where directed.

PART 2 PRODUCTS

2.01 WALLCOVERING

A. SCHEDULE:

1. See **Interior Finish Material Schedule, Architectural Drawing sheets.**

2.02 MATERIALS

A. Adhesive: Type recommended by wall covering manufacturer to suit application to substrate.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that substrate surfaces are prime painted and ready to receive work, and conform to requirements of the wall covering manufacturer.

3.02 INSTALLATION

A. Apply adhesive and wall covering in accordance with manufacturer's instructions.

B. Razor trim edges on flat work table. Do not razor cut on gypsum board surfaces.

C. Apply wall covering smooth, without wrinkles, gaps or overlaps. Eliminate air pockets and ensure full bond to substrate surface. Butt edges tightly.

D. Horizontal seams are not acceptable.

E. Do not seam within 2 inches (50 mm) of internal corners or within 6 inches (150 mm) of external corners.

F. Install wall covering before installation of bases and items attached to or spaced slightly from wall surface.

G. Do not install wall covering more than 1/4 inch (6 mm) below top of resilient base.

H. Cover spaces above and below windows, above doors, in pattern sequence from roll.

I. Remove excess adhesive while wet from seam before proceeding to next wall covering sheet. Wipe clean with dry cloth.

J. Coordinate installation with drywall reveal trim system.

3.03 CLEANING

A. Clean wall coverings of excess adhesive, dust, dirt, and other contaminants.

B. Reinstall wall plates and accessories removed prior to work of this section.

3.04 PROTECTION

A. Do not permit construction activities at or near finished wall covering areas.

END OF SECTION

SECTION 09 84 00
ACOUSTIC ROOM COMPONENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabric-covered fiberglass core panels and mounting accessories.

1.02 RELATED REQUIREMENTS

A. Section 09 51 00 - Acoustical Ceilings: Ceiling Grid.

1.03 REFERENCE STANDARDS

A. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method; 2009a.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2012.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's printed data sheets for products specified.

C. Shop Drawings: Fabrication and installation details, panel layout.

D. Selection Samples: Manufacturer's color charts for fabric covering, indicating full range of fabrics, colors, and patterns available.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company with not less than 5 years of experience in manufacturing acoustical products similar to those specified.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect acoustical panels from moisture during shipment, storage, and handling. Deliver in factory-wrapped bundles; do not open bundles until panels are needed for installation.

B. Store panels flat, in dry, well-ventilated space; do not stand panels on end.

C. Protect panel edges from damage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acoustical Wall Panels:
   1. Wenger Corporation; Product Interactive Acoustical Panels: www.wengercorp.com.
   2. G&S Acoustics
   3. Working Walls Solutions.; APS-3 Series
   4. CertainTeed; Decoustics Wall Panels
   5. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ACOUSTICAL PANELS

A. Fiberglass Core Panels:
   1. Density: 6 lb/cu ft
   2. Panel Width: As detailed.
   3. Panel Height: As detailed.
   4. Panel Thickness: 3/4 inch
   5. Edges: Perimeter edges reinforced by a formulated resin hardener.
   6. Corners: Square.
   7. Mounting: Back mounting.

B. Fabric Covering: Seamless fabric facing material, for stretched covering of core material.
   1. Fabric: Manufacturer's standard, Guilford of Maine - Model FR701, style 2100. Maharam, Pattern: Messenger, Color: 458640-086 VOYAGE

2.04 ACCESSORIES

A. Mounting hardware shall be furnished by the manufacturer for this installation. Provide Z-clips suitable for application.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install acoustical panels in locations indicated, following installation recommendations of panel manufacturer. Align panels accurately, with edges plumb and top edges level. Scribe to fit accurately at adjoining work and penetrations.

B. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.

3.02 CLEANING

A. Clean fabric facing upon completion of installation from dust and other foreign materials, following manufacturer's instructions.

B. Remove surplus materials, trimmed portions of panels, and debris resulting from installation.

3.03 PROTECTION

A. Provide protection of installed acoustical panels until completion of the work.

B. Replace panels that cannot be cleaned and repaired to satisfaction of the Architect.

END OF SECTION

SECTION 09 90 00
PAINTING AND COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints and other coatings.

C. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished

D. Do Not Paint or Finish the Following Items:
   1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
   5. Floors, unless specifically so indicated.
   6. Ceramic and other tiles.
   7. Brick, architectural concrete, cast stone, integrally colored plaster and stucco.
   8. Exterior insulation and finish system (EIFS).
   9. Glass.
   10. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

B. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.

C. GreenSeal GS-11 - Paints and Coatings; 2013.

D. SSPC (PM1) - Good Painting Practice: SSPC Painting Manual, Vol. 1; Society for Protective Coatings; Fourth Edition.

E. SSPC (PM2) - Steel Structures Painting Manual, Vol. 2, Systems and Specifications; Society for Protective Coatings; 1995, Seventh Edition.

1.04 DEFINITIONS

A. Conform to ASTM D 16 for interpretation of terms used in this section.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of all products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
   2. MPI product number (e.g. MPI #47).
   3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.

C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.

D. Product Data: Provide data on all finishing products, including VOC content.

E. Samples: Submit two painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded. Submit on gypsum board.

F. Certification: By manufacturer that all paints and coatings comply with VOC limits specified.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 60 00 - Product Requirements, for additional provisions.
   2. Extra Paint and Coatings: 1 gallon of each color; store where directed.
   3. Label each container with color in addition to the manufacturer's label.

1.06 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 5 years' experience.

1.07 ADMINISTRATIVE REQUIREMENTS

A. Inclusion of VOC and Green Label Requirements to meet compliance of MFHA.

B. See requirements of Enterprise Green Communities Criteria 6.1 for required VOC levels for applicable products.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

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

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.09 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

E. Minimum Application Temperature for Varnish Finishes: 65 degrees F for interior or exterior, unless required otherwise by manufacturer's instructions.

F. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.

B. Paints: Provide Zero VOC latex paints for each manufacturer.
   1. Base Manufacturer: Sherwin Williams (SW) - ProMar 200 Zero - VOC Mixture.
   2. Glidden Professional, a product of PPG Architectural Coatings: www.gliddenprofessional.com.
   3. Benjamin Moore & Co: www.benjaminmoore.com.
   4. Pittsburgh Paints
   5. Pratt & Lambert.
   6. Diamond Vogel

C. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PAINTS AND COATINGS - GENERAL

A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
   1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
   2. Supply each coating material in quantity required to complete entire project's work from a single production run.
   3. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.

B. Primers: As follows unless other primer is required or recommended by manufacturer of top coats; where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

C. Volatile Organic Compound (VOC) Content:
   1. Provide coatings that comply with the most stringent requirements specified in the criteria 6.1 in relation to the MFHA standards required and the following:
      a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
      b. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:
         1) Opaque, Flat: 50 g/L, maximum.
         2) Opaque, Non-flat: 50 g/L, maximum.
         3) Floor: 100 g/L.
         4) Anti-corrosive: 250 g/L
      c. Architectural coatings VOC limits of State in which the project is located and the requirements of Enterprise Green Communities Criteria.
   2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

D. Chemical Content: The following compounds are prohibited:
   1. Aromatic Compounds: In excess of 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
   2. Acrolein, acrylonitrile, antimony, benzene, butyl benzyl phthalate, cadmium, di (2-ethylhexyl) phthalate, di-n-butyl phthalate, di-n-octyl phthalate, 1,2-dichlorobenzene, diethyl phthalate, dimethyl phthalate, ethylbenzene, formaldehyde, hexavalent chromium, isophorone, lead, mercury, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, naphthalene, toluene (methylbenzene), 1,1,1-trichloroethane, vinyl chloride.

E. Flammability: Comply with applicable code for surface burning characteristics.

F. Colors: To be selected from manufacturer's full range of available colors.
   1. Selection to be made by Architect after award of contract.

2.03 PAINT SYSTEMS - EXTERIOR

A. Paint WE-TR-S - Wood, Transparent, Sealer, Optional Stain:
   1. Two coats of stain; SW Woodscapes Semi-Transparent or Solid Color as directed by Architect.

B. Paint ME-OP-2L - Exterior Ferrous Metals, Primed, Latex, 2 Coat:
   1. Touch-up with rust-inhibitive primer recommended by top coat manufacturer.
   2. Semi-gloss: Two coats of latex enamel; SW DMT Acrylic Semi-gloss Coating.

2.04 PAINT SYSTEMS - INTERIOR

A. Paint WI-OP-3L - Interior Wood, Opaque, Latex, 3 Coat:
   1. One coat of latex primer sealer, SW PrepRite Classic Latex Primer.
   2. Flat: Two coats of latex enamel, SW Pro-Mar 200 Interior Latex Flat.

B. Paint WI-TR-VS - Wood, Transparent, Varnish, Stain:
   1. Filler coat (for open grained wood only).
   2. One coat of stain; SW Wood Classics Oil Stain.
   3. One coat sealer; SW Wood Classics Sanding Sealer.
   4. Satin: Two coats of varnish; SW Wood Classics Polyurethane.

C. Paint CI-OP-3L - Concrete/Masonry, Opaque, Latex, 3 Coat, WALLS:
   1. One coat of block filler, SW PrepRite Block Filler (B25W25).
   2. Eggshell: Two coats of latex enamel, SW ProMar 200 Latex Eggshell.

D. Paint MI-OP-2L - Ferrous Metals, Primed, Latex, 2 Coat.
   1. Touch-up with latex primer.
   2. Semi-gloss: Two coats of latex enamel; SW DMT Acrylic Semi-gloss Coating B66-2100.

E. Paint GI-OP-3L - Gypsum Board/Plaster, Latex-Acrylic, 3 Coat, WALLS:
   1. One coat of Latex primer sealer, SW Interior Latex Primer.
   2. Eggshell: Two coats of latex enamel; SW Sherscrub Supreme Latex Eggshell.

F. Paint GI-OP-3LA - Gypsum Board/Plaster, Latex-Acrylic, 3 Coat, CEILINGS:
   1. One coat of Latex primer sealer, SW Interior Latex Primer.
   2. Flat: Two coats of latex enamel-acrylic; SW ProMar 400 Latex Flat.

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
   1. Gypsum Wallboard: 12 percent.
   2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
   3. Interior Wood: 15 percent, measured in accordance with ASTM D4442.
   4. Exterior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to coating application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Surfaces: Correct defects and clean surfaces which affect work of this section. Remove or repair existing coatings that exhibit surface defects.

E. Seal surfaces that might cause bleed through or staining of topcoat.

F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

G. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

H. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

I. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

J. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.

K. Interior Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.

L. Exterior Wood to Receive Transparent Finish: Remove dust, grit, and foreign matter; seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes with tinted exterior calking compound after sealer has been applied. Prime concealed surfaces.

M. Glue-Laminated Beams: Prior to finishing, wash surfaces with solvent, remove grease and dirt.

N. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

A. Apply products in accordance with manufacturer's instructions.

B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

C. Apply each coat to uniform appearance.

D. Sand wood and metal surfaces lightly between coats to achieve required finish.

E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

F. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 SCHEDULE - SURFACES TO BE FINISHED

A. Do Not Paint or Finish the Following Items:
   1. Items fully factory-finished unless specifically noted.
   2. Fire rating labels, equipment serial number and capacity labels.

B. Paint the surfaces described below under Schedule - Paint Systems.

C. Mechanical and Electrical: Use paint systems defined for the substrates to be finished.
   1. Paint all insulated and exposed pipes occurring in finished areas to match background surfaces, unless otherwise indicated.
   2. Paint shop-primed items occurring in finished areas.
   3. Paint interior surfaces of air ducts and convector and baseboard heating cabinets that are visible through grilles and louvers with one coat of flat black paint to visible surfaces.
   4. Paint dampers exposed behind louvers, grilles, and convector and baseboard cabinets to match face panels.

3.06 SCHEDULE - PAINT SYSTEMS

A. Gypsum Board: Finish all surfaces exposed to view.
   1. Interior Ceilings and Bulkheads: GI-OP-3L, flat.
   2. Interior Walls: GI-OP-3L, Eggshell.

B. Wood: Finish all surfaces exposed to view.
   1. Exterior timbers: WE-TR-S.
   2. Interior Particle board backer behind finished wood planks: WI-OP-3L, Flat.
   3. Interior Paneling & Trim: WI-TR-VS, gloss.

C. Steel Frames: Finish all surfaces exposed to view; MI-OP-2L, semi-gloss.

D. Steel Fabrications: Finish all surfaces exposed to view.
   1. Exterior: ME-OP-2L, semi-gloss; finish all surfaces, including concealed surfaces, before installation.
   2. Interior: MI-OP-2L, semi-gloss.

3.07 SCHEDULE - COLORS

A. **See Interior Finish Material Schedule, Architectural drawing sheets.**

END OF SECTION

SECTION 10 26 13
CORNER GUARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Corner guards.

1.02 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturer's descriptive literature.

C. Provide location plan noting locations & quantities.

D. Color Samples: Submit one full set of samples illustrating color.

1.03 EXTRA MATERIALS

A. Provide (2) additional corner guards

PART 2 PRODUCTS

2.01 CORNER GUARDS

A. Schedule: **See Interior Finish Material Schedule, Architectural drawing sheets.**

B. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 FABRICATION

A. Fabricate components with tight joints, corners and seams.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that rough openings, concealed blocking, and anchors are correctly sized and located.

3.02 INSTALLATION

A. Install components in accordance with manufacturer's instructions, level and plumb, secured rigidly in position to wall w/ adhesive as recommended by manufacturer.

B. Position corner guard recommended inches above wall base to recommended inches high.

END OF SECTION

SECTION 10 28 00

TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Accessories for toilet rooms and utility rooms.

B. Grab bars.

1.02 REFERENCE STANDARDS

A. A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2017.

B. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service 2022.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2023.

D. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.

E. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium 2017 (Reapproved 2022).

F. ASTM C1036 - Standard Specification for Flat Glass 2021.

G. ASTM C1503 - Standard Specification for Silvered Flat Glass Mirror 2024.

H. ASTM F2285 - Standard Consumer Safety Performance Specification for Diaper Changing Tables for Commercial Use 2022.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with the placement of internal wall reinforcement, concealed ceiling supports, and reinforcement of toilet partitions to receive anchor attachments.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.

1.05 COORDINATION

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Toilet Accessories:
   1. AJW Architectural Products: www.ajw.com.
   2. ASI - American Specialties, Inc: www.americanspecialties.com.
   3. Bradley Corporation: www.bradleycorp.com.

2.02 MATERIALS

A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
   1. Grind welded joints smooth.
   2. Fabricate units made of metal sheet of seamless sheets, with flat surfaces.

B. Keys: Provide 2 keys for each accessory to Owner; master key lockable accessories.

C. Stainless Steel Sheet: ASTM A666, Type 304.

D. Stainless Steel Tubing: ASTM A269/A269M, Type 304 or 316.

E. Galvanized Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.

F. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.

G. Adhesive: Contact type, waterproof.

H. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.

I. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.03 FINISHES

A. Stainless Steel: No. 4 Brushed finish, unless otherwise noted.

B. Chrome/Nickel Plating: ASTM B456, SC 2, satin finish, unless otherwise noted.

C. Baked Enamel: Pretreat to clean condition, apply one coat primer and minimum two coats epoxy baked enamel.

D. Galvanizing for Items Other than Sheet: Comply with ASTM A123/A123M; galvanize ferrous metal and fastening devices.

E. Shop Primed Ferrous Metals: Pretreat and clean, spray apply one coat primer and bake.

F. Back paint components where contact is made with building finishes to prevent electrolysis.

2.04 TOILET ROOM ACCESSORIES

A. Toilet Paper Dispenser: Double roll, surface mounted, satin finish stainless steel with plated steel dispensing mechanism, tumbler lock, second roll automatically drops into place when first roll is finished.
   1. Product: B-2888 manufactured by Bobrick.

B. Paper Towel Dispenser: Folded paper type, stainless steel, semi-recessed, with viewing slots on sides as refill indicator and tumbler lock.
   1. Capacity: 400-C Fold minimum.
   2. Product: B-262 manufactured by Bobrick.

C. Soap Dispenser: Liquid soap dispenser, deck-mounted on vanity, with polyethylene container concealed below deck; piston and 4 inch spout of stainless steel with bright polished finish; chrome-plated deck escutcheon.
   1. Minimum Capacity: 34 ounces.
   2. Product: B-822 manufactured by Bobrick.

D. Mirrors: Stainless steel framed, 1/4 inch thick annealed float glass; ASTM C1036.
   1. Size: As shown on drawings.
   2. Frame: 0.05 inchangle shapes, with mitered and welded and ground corners, and tamperproof hanging system; No.4 finish.
   3. Backing: Full-mirror sized, minimum 0.03 inch galvanized steel sheet and nonabsorptive filler material.
   4. Product: B-165 standard sizes as noted on drawings manufactured by Bobrick.

E. Grab Bars: Stainless steel, nonslip grasping surface finish.

F. Grab Bars: Stainless steel, 1-1/2 inches outside diameter, minimum 0.05 inch wall thickness, nonslip grasping surface finish, concealed flange mounting; 1-1/2 inches clearance between wall and inside of grab bar.
   1. Length and configuration: As indicated on drawings.
   2. Product: B-6806 manufactured by Bobrick.

G. Sanitary Napkin Disposal Unit: Stainless steel, surface-mounted, self-closing door, locking bottom panel with full-length stainless steel piano-type hinge, removable receptacle.
   1. Product: B-254 surface mount manufactured by Bobrick.
   2. Product: B-353 recess mount manufactured by Bobrick.
   3. Product: B-354 back-to-back partition mount manufactured by Bobrick.

H. Specimen Pass Through: Satin finish stainless steel recessedwall pass through with self closing doors and removable tray.

1. Product: 9813 Specimen Pass Through manufactured by Bradley.

I. Diaper Changing Station: Wall-mounted folding diaper changing station for use in commercial toilet facilities, meeting or exceeding 1.
   1. Style: Horizontal.
   2. Material: Polyethylene.
   3. Mounting: Surface.
   4. Color: As selected.
   5. Minimum Rated Load: 250 lbs.
   6. Manufacturers:
      a. American Specialties, Inc: www.americanspecialties.com.
      b. Bradley Corporation: www.bradleycorp.com.
      c. Foundations Worldwide, Inc : www.brocar.com.
      d. Diaper Deck & Company: www.diaperdeck.com.
      e. Koala Kare Products: www.koalabear.com.
      f. Safe-Strap Company, Inc: www.diaperdepot.com.
      g. Substitutions: 01 60 00 - Product Requirements.

2.05 UTILITY ROOM ACCESSORIES

A. Combination Utility Shelf/Mop and Broom Holder: 0.05 inch thick stainless steel, Type 304, with 1/2 inch returned edges, 0.06 inch steel wall brackets.
   1. Drying rod: Stainless steel, 1/4 inch diameter.
   2. Hooks: 2, 0.06 inch stainless steel rag hooks at shelf front.
   3. Mop/broom holders: 3 spring-loaded rubber cam holders at shelf front.
   4. Length: 30 inches.
   5. Product: B-224 manufactured by Bobrick.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify exact location of accessories for installation.

3.02 PREPARATION

A. Deliver inserts and rough-in frames to site for timely installation.

B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

A. Install accessories in accordance with manufacturers' instructions in locations indicated on the drawings.

B. Install plumb and level, securely and rigidly anchored to substrate.

C. Mounting Heights: As required by accessibility regulations, unless otherwise indicated.

D. Mounting Heights and Locations: As required by accessibility regulations, as indicated on drawings, and as follows:

3.04 PROTECTION

A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

SECTION 10 44 00
FIRE PROTECTION SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fire extinguishers.

B. Fire extinguisher cabinets.

C. Accessories.

1.02 REFERENCE STANDARDS

A. NFPA 10 - Standard for Portable Fire Extinguishers; Current edition.

1.03 PERFORMANCE REQUIREMENTS

A. Conform to NFPA 10.

B. Provide extinguishers classified and labeled by Underwriters Laboratories Inc. for the purpose specified and indicated.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate cabinet physical dimensions.

C. Product Data: Provide extinguisher operational features.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fire Extinguisher Cabinets and Accessories:
   1. JL Industries, Inc: www.jlindustries.com.
   2. Larsen's Manufacturing Co: www.larsensmfg.com.
   3. Nystom
   4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 FIRE EXTINGUISHERS

A. Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.

B. Dry Chemical Type Fire Extinguishers: Cast steel tank, with pressure gage.
   1. Class A B:C.
   2. Size 10.
   3. Finish: Baked enamel, Red color.

2.03 FIRE EXTINGUISHER CABINETS

A. Metal: Formed primed steel sheet; 0.036 inch thick base metal.

B. Cabinet Configuration: Semi-recessed type.
   1. Sized to accommodate accessories.
   2. Trim: 2-1/2 inch rolled edge.
   3. Form cabinet enclosure with right angle inside corners and seams. Form perimeter trim and door stiles.

C. Door: 0.036 inch thick, reinforced for flatness and rigidity; latch. Hinge doors for 180 degree opening with continuous piano hinge. Provide nylon catch.

D. Door Glazing: Tempered Glass, clear, 1/8 inch thick . Set in resilient channel gasket glazing.

E. Finish of Cabinet Exterior Trim and Door: Aluminum Anodized to Clear color.

F. Finish of Cabinet Interior: White enamel.

2.04 ACCESSORIES

A. Extinguisher Brackets: Formed steel, galvanized and enamel finished.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install cabinets plumb and level in wall openings, 24 inches from floor to inside bottom of cabinet.

C. Secure rigidly in place.

D. Place extinguishers in cabinets.

3.03 SCHEDULES

A. F.E.. = Fire Extinguisher with wall bracket.

B. F.E.C. = Fire Extinguisher with semi-recessed cabinet.

*Coordinate with existing systems.

END OF SECTION

SECTION 10 51 00
LOCKERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Solid plastic lockers.

1.02 RELATED REQUIREMENTS

A. Section 06 10 00 - Rough Carpentry: Wood blocking and nailers.

1.03 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2024.

C. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

D. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth; 2024

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's published data on locker construction, sizes and accessories.

C. Shop Drawings: Indicate locker plan layout, numbering plan.

D. Samples: Submit standard samples, of each manufacturer standard color.

E. Manufacturer's Installation Instructions: Indicate component installation assembly.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect locker finish and adjacent surfaces from damage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Solid Plastic Lockers: To meet NFPA 286 requirements.
   1. Columbia Lockers, a division of PSiSC; PolyLife Lockers: www.psisc.com.
   2. ASI Storage Solutions: www.asi-storage.com/#sle.
   3. Columbia Lockers, a division of PSiSC; PolyLife Lockers: www.psisc.com/#sle.
   4. List Industries, Inc: www.listindustries.com/#sle.
   5. Scranton Products; Tufftec Lockers: www.scrantonproducts.com/#sle.
   6. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 SOLID PLASTIC LOCKERS

A. Lockers: Factory assembled, made of high density polyethylene (HDPE) panels, homogenous color throughout, with mortise and tenon joints with stainless steel fasteners or heat fused joints.
   1. Doors: Full overlay without frame.
   2. Ventilation: By open space between the back of the door and locker body.
   3. Door Color: To be selected by Architect.
   4. Body Color: Manufacturer's standard white or light color.

B. Component Thicknesses:
   1. Doors: 1/2 inch minimum thickness.

C. Solid Plastic Panels: High Density polyethylene (HDPE) formed under high pressure into solid plastic components.

D. Hinges: Full height of locker, manufacturer's standard heavy duty type.

E. Locks: Locker manufacturer's standard type of style indicated above.

2.04 MATERIALS

A. Accessories For Each Locker: one double prong ceiling hook, three single prong wall hooks.

2.05 LOCKER UNITS

A. Width: 12 inches or as shown.

B. Depth: 18 inches or as shown.

C. Height: 60 inches or as shown.

D. Configuration: single tier.

E. Mounting: Surface mounted.

F. Base: To match locker materials.
   1. Base Height: 4 inch or as shown on drawings.

G. Class: Quiet.

H. Locking device supplied by others.

I. Number Plates: Provide oval shaped aluminum plates. Form numbers of block font style, in contrasting color.

J. Finish edges smooth.

K. Sloped top or as shown on drawings.

2.07 FINISHING

A. Clean, degrease, and neutralize metal; prime and finish with one coat of baked enamel.

B. Finished, as selected from standard options.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that areas are ready to receive work.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install lockers plumb and square.

C. Place and secure on prepared base.

D. Bolt adjoining locker units together to provide rigid installation.

E. Install end panels and filler panels.

F. Install accessories.

G. Replace components that do not operate smoothly.

3.03 CLEANING

A. Clean locker interiors and exterior surfaces.

END OF SECTION